



**Productivity Commission Inquiry
into the Health Workforce, 2005**

**‘Solving maternity workforce
shortages through getting the
skillmix right’**

**Submission from
the Australian College of Midwives**

July 2005

EXECUTIVE SUMMARY

This submission to the productivity Commission Inquiry into the Health Workforce focuses on new ways of resolving current workforce shortages (of both doctors and midwives) in the maternity care sector.

The submission presents analysis of the factors driving the current maternity workforce shortages, as well as evidence of best practice in other OECD countries.

A recurring point through the Commission's Issues Paper (PC 2005) is the need to ensure the skills of the health workforce are being appropriately utilized. This means that there is a need to ensure the right mix of available skills is always brought to bear in service delivery (p.19). The Paper highlights the need to "discourage the routine delivery of less complex services by highly skilled practitioners through changes to funding mechanisms", and "increasing the role for 'primary health practitioners'". (p.43). The Paper rightly acknowledges that there are likely to be "significant benefits for patients as well as possible cost savings, from improvements to service quality" associated with making appropriate use of available workforce skills. (p.20).

These challenges and opportunities are perhaps nowhere more relevant than in the maternity services sector. This submission argues that the workforce shortages currently affecting maternity services could be readily addressed through institutional, regulatory, funding and cultural changes that would realign the skills mix in the maternity sector.

In particular, it proposes that the obstetric workforce (mostly GP in rural areas and specialist in urban areas), be reserved for the care of a minority of women with identified need of medical care, and that the healthy majority of pregnant women receive primary care from midwives. As specialists in normal pregnancy and birth, midwives are well placed to provide high quality care to women, with referral to medical services as needed in line with evidence-based referral guidelines.

Use of midwifery-led services as a mainstream element of service provision has long been undertaken in a number of other OECD countries (such as New Zealand, the Netherlands and the UK) with proven benefits to consumers. It has particular merits as a model of care that would meet the needs of rural women, Aboriginal women and disadvantaged women in urban areas. It has also been shown to be cost effective, and would deliver cost savings in the national maternity budget.

Implementation of the strategies proposed in this paper would see a substantial shift from current service delivery arrangements, where the vast majority of women are channeled into medical maternity services and fewer than 5% of women have access to continuity of care by midwives. Rather it is foreseeable that 70-80% of women would receive primary midwifery care, with the remainder receiving collaborative care from obstetricians.

Such a shift in the skill mix of the maternity services workforce would be the key to addressing the current shortage of midwives. Research has shown that midwives are leaving the profession due largely to stress and frustration caused by the dominance of medicalised systems of maternity care in Australia. Standard maternity services currently

afford midwives limited opportunities of caring for women across the full scope of midwifery practice as defined by the World Health Organisation (WHO).

Reform to maternity care would also go a long way to addressing the current workforce shortages of obstetricians (both GP and specialist). Fewer obstetricians per woman of childbearing age (15-49) would be needed than is the case now to provide sustainable and safe maternity care to the 250,000 women having a baby in Australia each year. Rather than being routinely involved in the care of tens of thousands of healthy women as they are now, obstetricians would be able to use their skills and expertise in providing care to women who have pre-existing medical conditions or who develop obstetric complications during pregnancy or birth.

There are already many midwives who are experienced with working on their own responsibility in partnership with women. Many more are well placed to step into such new roles if the opportunity arises. However, for the productivity and capacity of the midwifery workforce as a whole to be developed to meet such a role, a number of substantive reforms would be needed. These include

- reforming maternity services funding to provide equitable access for midwives to Medicare rebates for relevant services provided
- authorizing midwives to order and interpret routine diagnostic tests
- granting midwives prescribing rights for relevant drugs (e.g. syntocinon for post partum haemorrhage) and visiting access to hospitals
- developing national consistency in midwifery education standards
- legislative reform that enables explicit midwifery registration and regulation
- supporting the expansion to all states and territories of the internationally benchmarked 3 year Bachelor of Midwifery degree
- supporting midwives' ongoing professional development and accountability through peer review, and
- facilitating cultural change in the relationship between midwives and doctors

Positive change in the direction posed by this submission has already commenced in Australia. Consumer activism calling for increased access to continuity of care by midwives over the past 10 years, together with more than 20 public inquiries into maternity care, has resulted in new services being created in most states and territories. However they are still only accessible to fewer than 5% of women, are mainly in urban areas and are all unable to meet demand from women.

The Australian College of Midwives is currently in dialogue with consumer groups, state governments, regulatory authorities, and doctor's and nurses' organizations about the range of reforms proposed here. For structural change in the delivery of maternity care to be fully achieved in a way that benefits all maternity consumers, however, leadership is urgently needed from the federal and state/territory governments.

Summary of Recommendations

Bearing in mind the Commission's responsibility to focus on systemic constraints on the health workforce, rather than focusing on the more specific problems of individual professions, the Australia College of Midwives would like to make the following summary observations and recommendations in relation to the maternity services sector:

1) Strategic assessment of skills mix in the maternity workforce is urgently needed

There are recognised shortages in the midwifery workforce in Australia as in other resource rich nations (AMAP 2003; Aiken 2003; Buchanan et al 2000; Finlayson et al 2002; Tracy et al 2000; Wood 1959) that are not adequately addressed in health workforce planning ventures to date. A major reason for such failure is the lack of appropriate structures for health workforce planning to address what we see as the underlying problem in the midwifery workforce. There is no capacity in Australia at the moment to recognise and remunerate midwives for their full scope of practice. Australia needs to move beyond identifying the *number* of midwives currently in the workforce to identifying *skill shortages* in the systems of maternity care.

The Commonwealth government should lead a strategic assessment of the workforce skills needed for the delivery of high quality and cost effective maternity care. There is no research evidence to support the assumption that traditional approaches to service provision (with highly trained specialists obstetricians routinely providing care to low risk, healthy pregnant women) is the only safe and desirable way to provide care.

This is perhaps most compellingly put by the (obstetrician) authors of the celebrated international text: *Guide to Effective Care in Pregnancy and Childbirth* who wrote:

'As technical advances became more complex, care has come to be increasingly controlled by, if not carried out by, specialist obstetricians. The benefits of this trend can be seriously challenged. It is inherently unwise, and perhaps unsafe, for women with normal pregnancies to be cared for by obstetric specialists, even if the required personnel are available....Industrialized countries in which midwives are the primary caregivers for healthy childbearing women have more favourable maternal and neonatal outcomes, including lower perinatal mortality rates and lower caesarean delivery rates, than countries in which many or most healthy women receive care from obstetricians during pregnancy'(Enkin et al 2000, 21-22.

2) Obstetricians skills (GP and specialist) should be reserved for women with need of medical care. The healthy majority of women should be cared for by midwives (public or private), with referral to doctors as the needs of individual women or babies dictate.

There is a strong case for making much fuller utilization of the midwifery profession as a solution to workforce shortages in maternity care. The skills

of specialist and GP obstetricians (which are in short supply) should be being reserved for the minority of women who need them, thus requiring fewer obstetricians to provide care for the 252 000 women currently having a baby each year in Australia.

There will always be a need for obstetricians (both GP and specialists) to be available to provide care to women who have pre-existing medical conditions prior to pregnancy (around 2% of women), or who have a history of previous obstetric complication (around 10%). However the percentages of women currently receiving obstetric services (70-80%) could be dramatically reduced through an expansion in the role of midwives in providing care to women experiencing normal pregnancy and birth.

Midwives are capable of providing high quality, safe and competent care to the health majority of pregnant women on their own responsibility in both urban and rural areas. Opportunities to work in more flexible ways, collaboratively but with professional autonomy, will ensure that we attract and retain midwives.

3) Current maternity funding policies act as a major barrier to the effective utilisation of midwifery expertise

Structural mechanisms, such as the provision to doctors (GP and specialist) but not midwives of Medicare Provider Numbers, the Medicare Safety Net policy, indemnity rebates and subsidies for ongoing education, etc, strongly reinforce the status quo and continue to ensure that the midwifery profession remains under-utilised and largely controlled by the medical professions. This is not in the best interests of women and their families, or in the best interests of taxpayers.

4) Extensive use of midwives to provide primary healthcare to women and families is supported by research evidence and by international experience as beneficial for mothers and babies and as cost effective.

Implementing national strategies to enhance the productivity and effectiveness of the midwifery profession will not only enhance the quality and sustainability of Australian maternity services, but reduce the per birth cost of maternity services.

Primary midwifery services, through both the public and private health systems, can also help to better meet the needs of women living in rural communities and of Indigenous women.

5) To substantially realign the skill mix of maternity services will require regulatory and structural reforms as well as incentives for collaboration from those with a vested interest in the status quo

Reforms are needed to validate the legitimate role of the midwifery profession in providing maternity care to the healthy majority of women, with

appropriate consultation and referral for those women/babies who also need medical care.

Women should be able to choose to access care from the health professional of their choice, as is the case in New Zealand and other OECD countries, rather than being routinely channeled into medical care for their pregnancy and birth.

- 6) **Like their medical colleagues, Midwives should be supported to choose to practice privately if they so wish through the removal of barriers to private midwifery practice.**

Barriers include a lack of access to public funding for services provided by midwives, a lack of visiting access/admitting privileges to provide private care in public hospitals, a lack of prescribing rights for relevant drugs (such as syntocinon for post-partum haemorrhage), a lack of access to affordable professional indemnity insurance, and a lack of referrals from GPs.

- 7) **The key reforms needed to facilitate a productive, capable and accountable midwifery workforce, and to address the current maternity workforce shortages include:**
- a) Provision of access midwives to public funding for maternity services, through providing Medicare Provider Numbers to midwives. This would help to mitigate Commonwealth state cost shifting would support both public and private midwifery services to flourish
 - b) Legislative reforms in the states/territories to provide midwives with limited prescribing rights and authorization to order and interpret relevant diagnostic tests in accordance with the NHMRC recommendations of 1998
 - c) Government support (such as that being provided to medical practitioners) for midwives to access medical indemnity
 - d) State/Territory government policies that support granting of Visiting Access for midwives to public and private hospitals
 - e) Commonwealth and state/territory governments cooperating to achieve national consistency in the regulation, registration and education of midwives
 - f) Legislative and funding support for the expansion of 3 year Bachelor of Midwifery education programs to all Australian states and territories.
 - g) Government and employer support for midwives to regularly access ongoing professional development opportunities to maintain and enhance their professional knowledge and skills
 - h) National strategies to support cultural change in the collective attitude of medical practitioners towards midwifery to support collaborative care focused on the needs of women and babies.

Australian College of Midwives
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1. Introduction

The Australian College of Midwives welcomes the opportunity to present a submission to the Productivity Commission Inquiry into the Australian Health Workforce. We are mindful of the Commission's broad brief from COAG and understand that the Commission's draft and final reports will necessarily focus on issues that affect the health workforce as a whole, rather than concentrating on particular professions.

This submission is concerned only with the health workforce involved in maternity services, i.e. in the delivery of high quality, safe and appropriate care to women and their families during their childbearing years. It highlights relevant workforce issues in this healthcare sector including both the midwifery workforce and other health professions involved in maternity services.

Many of the issues affecting the maternity services workforce are not specific to this sector, but to the kinds of problems and challenges which the Commissions Issues Paper has outlined in relation to the entire health workforce in Australia. We therefore offer the following submission with its focus on maternity services in a spirit of providing insights into the problems and solutions of an important sector of our health care system.

2. The Australian Maternity Services Workforce

Maternity services comprise a major area of our healthcare system in Australia. The Senate Inquiry into Childbirth *Rocking the Cradle* reported that maternity care accounts for the highest number of hospital bed days each year, with approximately 252,000 births per annum (Australian Senate 1999).

Maternity care also counts for a major proportion of the annual health budget at national and state levels. The precise extent of this budget is very difficult to estimate, with funding split between the Commonwealth (paying for relevant MBS rebates to specialists and GPs and for some pharmaceuticals), and State governments (which pay for the hospital staff, including midwives, as well as equipment and infrastructure). Although the percentage of women accessing private maternity care by specialist obstetricians has risen in recent years, this has not resulted in savings to the public health dollar, with rising Caesarean section rates (now at 30% nationally compared to 18% 10 years ago), indemnity related subsidies for obstetricians, and Medicare safety net payments rising into multi-millions of dollars. The College of Midwives anticipates that if the federal government were to analyse its expenditure on maternity care over the past 10 years, it would find the per birth cost has risen substantially.

2.1 The Maternity Services workforce

The major health professions that provide maternity care include: midwives, General Practitioners, specialist obstetricians, anaesthetists, and paediatricians (neonatologists). There are currently workforce shortages for each of the midwifery, GP and obstetric professions, which are having significant impacts on women's access to quality and appropriate maternity care, particularly, but not exclusively, in rural areas. After surveying its members, the Royal Australian and New Zealand College of Obstetrics and

Gynaecology is forecasting half as many obstetricians practicing within the next 5 years as are practicing now. GPs have been all but excluded from provision of obstetric services in metropolitan areas over the past 10 years and practice predominantly in rural communities which lack obstetric specialists. However, the number of GPs obstetricians is also on the decline (RDAA 2005)

2.2 The Midwifery Workforce

As the Issues paper acknowledges, the Australian Health Workforce Advisory Committee recently inquired into the midwifery workforce in Australia (AHWAC 2002) and through analysis of available data, presented the following picture of the midwifery workforce in 2002:

- There are approximately 12,000 practising midwives in Australia (another 1,000 or so fill education, management and research positions), with an estimated 'actual headcount' shortage in 2002 of 1,846
- The workforce is predominantly female (99%) and middle aged (average 40.7 years in 1999)
- That midwives work predominantly as employees in hospitals (97.2%), with the majority working in the public sector (75.3%)
- That most work in capital cities (68.1%), with 10.1% in large rural hospitals, 6.8% in small rural hospitals, 5.4% in other rural and 2.2% in remote areas
- And that with primary carer responsibilities for their own families, most work part-time (72.6%) working an average of 27 hours per week.

Another important piece of contextual information about the midwifery workforce is its changing relationship to the nursing workforce. Between the 2 World Wars, midwifery in Australia came to be subsumed within nursing, with educational programs and regulation of the midwifery profession becoming the responsibility of nurse educators and regulators (Barclay 1995). Thus the majority of the Australian workforce today are Registered Nurses, with either registration or endorsement to practise midwifery following post (nursing) graduate qualifications being obtained in midwifery.

Over the past 5 or so years in Australia this has been changing, with renewed recognition in both regulatory and other institutions that midwifery is a distinct profession from nursing, warranting separate education programs and regulation. This change reflects consensus in other OECD countries, where midwifery has long been regarded not as a specialty of nursing but as a profession in its own right. Implementation of this change in Australia is still in progress, but there are notable examples of this separation in the change of name of the peak regulatory body the Australian Nursing Council, to the Australian Nursing and Midwifery Council, and the similar renaming of the Council of Deans of Nursing and Midwifery. Legislative reform in at least 3 states and territories (NSW, ACT, NT), with others in process (SA, TAS), are also endorsing this separation of midwifery from nursing. Furthermore, 3 year undergraduate direct entry degrees in midwifery are now being offered by 6 universities in 3 states (SA, Vic and NSW).

The historical submergence of midwifery in nursing has had an important influence on the midwifery workforce. Like nurses, midwives have not tended to be viewed as health professionals in their own right, but rather as supporting staff to medical practitioners (whether public or private) who in most institutions are regarded as the responsible care

provider for women and babies. This has been one of the factors that has contributed to the underutilization of the expertise of midwives in normal pregnancy, labour, birth and postnatal care, and the associated escalation of costly (and often preventable) medical interventions in childbirth. Furthermore, the routine use of a nursing model of rostered shiftwork to provide midwifery care to women has resulted in fragmented care that is ill-suited to women's needs during pregnancy, childbirth and early parenting and impacts on safety. Limitations on midwives' traditional ability to follow women through their pregnancy, birth and postnatal care has also increased stress for midwives and contributed to attrition rates (Brodie 2002).

3. The case for a rethink of the skills mix in maternity services

A recurring point through the Commission's Issues Paper (PC 2005) is the need to ensure that the skills of the health workforce are being appropriately utilized. This means that there is a need to ensure the right mix of available skills is always brought to bear in service delivery (p.19). The Paper highlights the need to "discourage the routine delivery of less complex services by highly skilled practitioners through changes to funding mechanisms", and "increasing the role for 'primary health practitioners'". (p.43). The Paper rightly acknowledges that there are likely to be "significant benefits for patients as well as possible cost savings, from improvements to service quality" associated with making appropriate use of available workforce skills. (p.20).

These challenges and opportunities are perhaps nowhere more relevant than in the maternity services sector. Indeed the College of Midwives would suggest that workforce shortages of midwives, GP obstetricians and specialist obstetricians could be resolved in the short term (2-3 years) if there were concerted effort by governments and health service managers to ensure more appropriate use of the available maternity care workforce in the delivery of maternity care.

This submission argues that current workforce shortages in maternity services need not be regarded as a crisis, but in fact present opportunities for a rethink of the delivery of maternity care. Through making greater use of the expertise of midwives in the care of healthy women, through reserving the expertise of obstetricians (GP and specialist) for the women who need medical care, and through instituting some key structural reforms to the delivery and funding of maternity care, the existing workforce issues could be overcome. This could be achieved without needing to increase the current numbers of health professionals at the same time as providing services that better meet the needs of women and for reduced cost. The details and evidence behind this argument are expanded below.

3.1 Workforce planning assumes status quo for delivery of care.

The observations in the Issues Paper about workforce planning being carried out in professional silos, rather than in relation to the health needs of consumers is very relevant to maternity services. With current and projected shortages of midwives, GPs and specialist obstetricians, efforts to respond to these problems are currently focused not on the optimal mix of health professional skills for providing high quality maternity services across all areas of Australia, but on the numbers of individuals being recruited to or

retained in each of these professions, taking the existing methods of delivering services as a given.

In health service and workforce planning for maternity care, there is a widespread presumption that current methods and skill mix for delivering maternity care is somehow optimal – or at least that because this is how things are done now, this is how things should be done in the future. This is despite mounting evidence that current methods of service delivery are inefficient, expensive and unsustainable in terms of both resources and recruitment/retention of a skilled workforce.

Maternity care in Australia is currently organized predominantly around the role of doctors. Midwives are seen as an essential element of maternity services, but not as the primary health professionals. Thus virtually all Australian women, no matter how healthy they are and how normal their pregnancy or labour, are obliged to receive care from one or more doctors during pregnancy and childbirth. Most women visit a GP to confirm pregnancy, and most (urban based) GPs refer women to specialist obstetricians. There is virtually no referral to private midwives (who are limited in number), and very little referral to midwifery services in public hospitals.

Despite being specialists in normal birth, recognized by the World Health Organisation as the most appropriate carer for the healthy majority of women (WHO 1999), the opportunities for midwives to fully utilize their skills and knowledge in the provision of professional care to women is highly circumscribed in most maternity services. Although most women are cared for by midwives at various times through their maternity episode, the care is provided in a fragmented way, with women typically encountering a multitude of different midwives during their antenatal, intrapartum and postpartum care and even having different midwives during their labour.

There is now substantial evidence to suggest that the skill and role mix, especially between midwives and doctors in the delivery of maternity care is far from optimal. Instead of reserving the skills of highly trained specialist obstetricians for the care of the minority of women who experience complications during their pregnancy or labour, government policies actively support the use of specialist skills in the care of the majority of healthy, low risk women. This is an inefficient and unnecessary use of the expertise of specialist obstetricians. In many other OECD countries, access for women to the care of an obstetrician is dependent on medical indications and referral by a midwife.

3.2 Consequences for consumers of the mismatch of workforce skills in maternity care

Policies that support routine care of healthy women by obstetricians have resulted in significant over-servicing. Recent research of all Australian births has found that only around 2% of pregnant women have a pre-existing medical condition that may influence their pregnancy or birth and which warrants obstetric care (Tracy et al 2005). A further 10% of healthy women have a history of obstetric complications and can thus be expected to develop some kind of complication during either pregnancy or labour for which obstetric expertise and technologies are necessary. Consistent with international experience, approximately 80% of women can be expected to have a healthy and straightforward pregnancy and birth, with a healthy baby (WHO 1999). Yet an

Australian population based study of more than 76,000 low risk women in NSW, found that only 24% of women in public hospitals gave birth without at least one medical intervention in their labour or birth. The rate for women in private hospitals was even lower at 16% (Roberts et al 2000). Although intervention rates vary between hospitals, this indicates a high level of system-wide medical over-servicing of healthy pregnant women, particularly when they are privately insured.

The over-servicing which is taking place is also evidenced by the rate of Caesarean sections being performed in Australia each year. This has risen in the past 10 years in Australia from 18% in 1991 to 27% in 2001 and close to an average of 30% now¹. While rates of Caesarean section in public hospitals are currently twice that uppermost limit of 15% recommended by the WHO (1999), they are typically higher still in private hospitals (with some private hospitals having rates higher than 50%). This is often explained away by obstetric spokespeople in the media by pointing to the numbers of private patients who commence having their family later in life and are therefore deemed to be less able to give birth spontaneously (e.g Jackman 2003). The Roberts et al study (2000) provides conclusive evidence for the first time that this argument does not explain the high rates of Caesarean sections being performed. Of the 70,000 healthy low risk women whose care was studied, and who presented to their chosen hospital with the same clinical indicators (a full term, head down, singleton baby following an uncomplicated pregnancy), those who went to private hospitals were 3 to 4 times more likely to have a Caesarean section than their counterparts who presented to a public hospital as a public patient. Thus for thousands of women a year, the need for caesarean section is actually being created by the way in which labour care is provided, and in particular by the higher use of medical interventions in labour (induction, augmentation and epidural) by private hospitals.

A rising rate of caesarean section has not resulted in associated improvements in levels of safety for Australian women and babies, as measured by maternal and infant mortality data. Maternal and infant mortality rates in Australia have remained steady and even risen slightly over the past 10 to 15 years (AIHW 2001, Laws and Sullivan 2004). Given that caesarean section involves greater risks to both mother and baby associated with major abdominal surgery, as well as costing 250% more (at least \$4,452 compared to \$1,717 for a spontaneous vaginal birth), the trend of rising caesarean section rates has questionable benefits for women as consumers of maternity services and for taxpayers alike (Tracy et al 2003). Rising rates of caesarean section birth also carries with it an increased burden of post-birth illness, infection and disability for mothers and babies (Barclay & Cockburn 2002, Lydon-Rochelle 2000, Smith et al 2003).

3.3 Benefits from increasing the utilization of midwives.

The healthy majority of Australian women could equally be receiving their care from midwives, with the same levels of safety and at lower cost. Midwives are experts in normal pregnancy and birth, and use national evidence based guidelines to assist with decision-making about consultation and referral with doctors. (ACMI 2004). The safety

¹ The latest available figure is for 2002, with the AIHW reporting a national rate of 27% (AIHW 2004). Anecdotal information from hospitals from across Australia suggests that in 2005 the rate is now around 30%.

of midwifery care has been confirmed in numerous randomized controlled trials both in Australia and overseas in recent years (Homer et al 2001a; 2001b; Rowley 1995).

Midwifery care involves a markedly different approach to the medical model to maternity care that is now commonplace in Australian hospitals. Rather than viewing each pregnancy as ‘a disaster just waiting to happen’, and as ‘only normal in hindsight’ as many obstetricians have claimed in media reports in recent years, midwifery works from the assumption that pregnancy and birth are normal physiological processes until the emergence of an indicator of abnormality. Midwives are educated in the rich diversity of what is normal for women during pregnancy and labour. They are also educated in identifying signs of abnormality, and are experienced in the use of emergency procedures (such as neonatal resuscitation) if the need arises. When an abnormality presents, midwives are experienced in how and when to involve medical practitioners in the woman’s care. In 2004 the Australian College of Midwives published national guidelines on consultation and referral for midwives (ACM 2004). These guidelines were developed in line with similar international standards, taking into account the latest research evidence, and in consultation with obstetricians and neonatologists. They are being widely used to support midwives in making evidence based decisions about referral.

The capacity of midwives to provide primary care to women and to support normal labour and birth to occur is particularly effective when the midwife has the opportunity to follow each woman in her care through her pregnancy till after the baby is born. For many years, this model of midwifery care in Australia has only been available to less than 1% of women, through the services of self-employed midwives, who women contract privately to provide their care, often for planned homebirth. However over the past decade governments have been responding to growing consumer demand for access to this type of continuity of midwifery care within the public health system and for hospital births, mainly in birth centres. Examples of these kinds of services now exist in nearly every Australian state or territory but are generally limited to metropolitan areas.

Such midwifery services (whether public or private) involve a fundamental change in the work practices of midwives and the policies of maternity services. Instead of working rostered shifts, the midwives take responsibility for caring for a caseload of women (normally 40 women a year FTE). They work mostly normal working hours, and are ‘on call’ for the women in their caseload who are due to birth. On call responsibilities are often shared with one or two other midwives to support the sustainability of this model of care and to ensure the woman will have a known midwife at her birth. A key feature of this type of care is the development of a relationship of trust and common understanding between each woman and her midwife, which research has confirmed results in significantly less need for the use of medical interventions in labour and in birth (see Enkin 2000; Hodnett 2000; Homer et al 2001a). Such care also results in women feeling happier with their maternity care, and reporting greater confidence in their parenting and a reduced vulnerability to postnatal depression.

3.4 Benefits of optimal use of midwives in rural areas

Opportunities for midwives to work in partnership with women stand to particularly benefit rural communities. Over the past 10 years, more than 125 rural maternity units have been closed. Since women continue to have babies, such closures shift the burden of maternity care onto families themselves, who have to travel hundreds of kilometers to access antenatal and birth care, as well as on to the providers of emergency rural medical services, such as the Royal Flying Doctors Service. The safety and well being of pregnant women in affected communities is being compromised by a lack of local maternity care.

There is growing national interest in the relevant professions, communities and governments working collaboratively to find solutions to the problem of rural closures. One of the triggers for many such closures has been shortages, for different reasons, of both GPs and midwives. GP organizations like the Rural Doctors' Association are best placed to articulate the reasons for shortages of GPs practicing obstetrics in rural communities, although the most often cited reasons are overwork and costs of indemnity (RDAA 2005). In relation to midwives, many rural employers cite difficulties in attracting and retaining midwives to small rural hospitals. Recent research by the Australian Midwifery Action Project gives some insight into the reasons for this.

Rural midwives are typically employed to perform both midwifery and nursing roles within small rural hospitals. Lacking access to funding for antenatal care, many hospitals require their midwives to care only for women in labour, and for any postnatal women who stay in the hospital. This care is provided on a rostered shiftwork basis, and when there are no women in labour, the midwife must work as a nurse in other areas of the hospital. Some midwives report finding the diverse challenges of performing both of these roles challenging and rewarding. However, many express great frustration at being unable to work full time as a midwife.

Maintaining a roster of nurses who are also midwives, so that the one woman per week who arrives at the hospital in labour can be cared for by a midwife is not an efficient use of midwifery expertise, nor is it a sustainable one. Yet this is currently the dominant model of midwifery care in rural communities. Rural employers argue it is necessary for all staff to be generalists in rural areas and to work in response to changing demands on the hospital on any given day. However, the insistence on recruiting nurse/midwives is also hampering efforts to attract sufficient numbers of nurses to rural hospitals. Instead of being able to recruit rural nurses from the 140,000 Registered Nurses in Australia, rural employers are currently limiting their recruitment pool to the 12,000 Registered Midwives, of whom fewer than 15% have historically shown an interest in living and working in rural communities (AHWAC 2002). This is no longer a sustainable recruitment and retention strategy for a skilled maternity workforce in rural communities.

An alternative model for delivering midwifery care in rural communities is to employ or contract only as many midwives as there are local births, using the formula of 40 births per annum per midwife for a full time equivalent load. Thus a rural town with 120 births per year could have 3-4 full time midwives providing antenatal, labour and postnatal care to those women, by working in a caseload model and sharing the on-call load for births.

Such services at present typically require as many as 10-12 midwives to provide labour care and limited postnatal support. In such a scenario, there is then opportunity to recruit the balance of nursing staff (in this example the remaining 6-8 positions) from the general nursing workforce. This approach is not simply theoretical. Examples exist of rural maternity services in a number of states that have moved to develop caseload midwifery services in recent years. Such services are able to increase the professional satisfaction of their midwives (a key element of addressing recruitment and retention problems), broaden their recruitment base for nurses, and provide more comprehensive maternity care to their communities. These models of care have proven sustainable in rural communities in other countries and where they have been developed in Australia.

Changes in the model for delivering maternity care in rural communities can also help to mitigate pressure to close rural units. It is not necessary to have on site caesarean section capability to have a safe local maternity service for women living in rural areas. Rural maternity services need not be closed for a want of obstetric GPs. As long as there are appropriate arrangements for safe transfer of women to a referral unit that is within 75 minutes traveling time from the primary unit, a safe service can be provided in a rural maternity unit staffed only by midwives. (Thomas et al 2004). This has recently been acknowledged by the Queensland Health minister, in deciding to reopen the Mareeba maternity unit as midwifery led service with referral to Cairns. Similar midwifery led services are providing high quality and safe care to women in urban areas of Australia, including Ryde in Sydney, northern and central Adelaide, and Fremantle, WA.

Developing rural maternity services where midwives offer a primary health care service to local women offers a safe and cost effective model for retaining or even re-opening maternity units in rural communities. It is much safer for midwives to assess the well being and clinical needs of pregnant and labouring women, and refer them to medical help as needed, than it is for families to have to make their own decisions about when to travel to receive care. The rising rate of rural babies being born by the side of the road in recent times is testimony to the fact that families are not well placed to make these decisions unaided. Nor is it appropriate that increasing numbers of rural families must endure the stress and anxiety of having no access to local maternity care from qualified health professionals.

In view of the worsening crisis affecting rural maternity services, State and Territory governments must work together to develop a national plan for rural maternity care that fully utilizes the midwifery workforce in the provision of primary health care, through supporting the establishment of maternity service networks. These networks should comprise local midwifery-led primary services, with well supported mechanisms for referral to secondary and tertiary medical (GP and specialist obstetric) services as needed.

3.5 Meeting the specific needs of Indigenous women and families

Making more optimal use of the midwifery workforce also hold potential benefits for Aboriginal women. International evidence indicates that the greatest benefits are achieved for Indigenous women from 3 key changes to maternity care provision:

1. educating Indigenous midwives and health care workers to provide maternity care;
2. providing access to one-to-one continuity of midwifery care; and

3. facilitating women's choice about the place they give birth, including the option of birthing 'on country'.

While the cultural needs of Australian Aboriginal and Torres Strait Islander women are clearly distinct from those of Indigenous people in other countries, and the health needs of Aboriginal people are complex, international experience indicates one-to-one continuous midwifery care is likely to be an effective model of care for improving maternal and infant mortality and morbidity outcomes for Aboriginal mothers and babies.

For example, in New Zealand, where publicly funded continuity of midwifery care has been available for the past ten years, the perinatal mortality rates for Maori women are as low as those for European/other (NZ Ministry of Health 1999). More than 73% of all Maori women choose this option. The maternal mortality rates and perinatal mortality rates for Indigenous populations are both lower in New Zealand than Australia.

Similar successful initiatives have been instituted for Canadian Indigenous women. Models of midwifery care have been established which are community based, offering one-to-one continual midwifery care to Indigenous women within their own communities (Kaufert & O'Neil 1988; Coochie 1997). This is in response to Indigenous demands for self-determination in health, and has resulted in the development of a traditional training program and a birth centre on the land at Six Nations (on the Ontario/U.S. border) which trains First Nations women, based in their community, to care for other First Nations women there. Government education initiatives in Canada have prioritised the integration of Indigenous midwifery students to provide community-based, continuity of care midwifery in urban and rural environments. This is in recognition of the value placed on provision of this model of care delivery and in response to a stated desire by Indigenous communities for access to community midwifery.

Community midwifery projects have also been developed with considerable success in the remote Arctic areas of Canada, initiated in response to the devastating social effects of "evacuated childbirth" policies (Kaufert 1988). A pilot project on the east coast of Hudson's Bay has expanded to include 7 Inuit communities. Women from the Povungnituk community decided that the building of a maternity centre in 1986 needed to incorporate the training of Inuit women, selected by their community, to become community-based midwives who would care for birthing women at home, in their own community instead of evacuating all birthing women to tertiary centres in the south. White midwives were originally recruited from the south to train and work alongside the Inuit trainees. While high-risk women continue to be flown out, the vast majority (>90%) of births take place in the community. These services have not only demonstrated good clinical outcomes for Inuit women but have also reintegrated birth and birth care back into Inuit communities (Houd et al 2004).

In Australia there are only small numbers of Aboriginal midwives at present, and very few working in remote communities. Strategies to support greater numbers of Aboriginal midwives being educated, and to assist them to offer care to Aboriginal women in both urban, rural and remote would be likely to make a major contribution to enhancing health outcomes for Aboriginal mothers and babies. Such an initiative has already been implemented in NSW.

3.6 The cost effectiveness of midwifery led services

In addition to the benefits to consumers from expanding the numbers and spread of midwifery services that offer continuity of care to women, such services have been found to be more cost effective on a per birth basis than standard care. A NSW study, for example, found that births on a midwifery led program cost an average of \$1000 less than standard care for comparable women in the same hospital (Homer et al 2001b). These savings were maintained, even when the Caesarean section rate for the program was modeled at the same level as the rest of the hospital. The savings are mainly derived from the lower rates of medical intervention in the labours and births of women resulting from this model of care. Another Australian study has confirmed that the costs of a birth rise by up to 50% when an intervention such as epidural is used during labour (Tracy et al 2003).

For further evidence of the cost effectiveness of making use of midwifery expertise as a mainstream service option one need go no further than New Zealand. In the early 1990s, New Zealand restructured its funding for maternity services. It created provisions for Lead Maternity Carer, which enables every NZ woman to elect either an obstetrician, a GP or a midwife as her Lead Maternity Carer (LMC). The health professional chosen receives a fixed fee from the government for services provided during pregnancy, labour and birth, and the postnatal period, regardless of whether they are an obstetrician, a GP or a midwife. Since the introduction of this funding model, midwives have gone into private practice in large numbers, with 40% of the workforce now working in private group practices, caring for a caseload of women. As the numbers of women choosing midwives as their LMC has risen steadily up to more than 70% of women each year, there have been substantial net savings to the national maternity services budget, which has freed up resources to be redirected to other areas of need in the health sector (Ministry of Health 2004:65). The New Zealand experience provides a good example of how restructuring of funding for maternity services to provide equitable access for midwives to public funding for maternity care has resulted in substantial net savings to the national maternity services budget.

3.7 How fuller use of midwifery in maternity service provision would address workforce issues

We currently have national shortages of all three main professions involved in maternity care delivery: obstetricians, GPs and midwives. Inefficiencies in the utilisation of workforce skills contribute directly to these shortages. Through making fuller use of midwifery expertise in the provision of care to the healthy majority of women, these shortages can be effectively addressed, as outlined below.

There are currently an estimated 1,250 obstetricians in Australia (RANZCOG 2005). The latest available official data suggest that a majority (63%) of obstetricians currently work in part or full time private practice, caring for either a full private caseload of women, or a mixture of public and private patients (AMWAC 1998, 84). There are some significant variations across Australia in the proportion of obstetricians per 100,000 women of childbearing age, with some states having 15 obstetricians per female population aged 15-49 years, and others having as many as 25 (AMWAC 1998,42).

The Australian Medical Workforce Advisory Committee reports that RANZCOG (or RACOG as it was then) advised that an acceptable SRP (Service Provision Requirement) ratio of obstetricians to the population of women of childbearing age is 1:10,000 in urban areas and 1:15,000 in rural areas (AMWAC 1998; 41). AMWAC averaged these to derive a ratio of 1:12,500. Using this ratio, the Committee then found that at the time of reporting there was 2 to 3 times as many obstetricians in all states and territories across Australia than this ratio indicates is necessary, concluding, “all state and territories are well endowed with [obstetric] specialists”. Using the RACOG ratio, this would suggest that for the current population of women aged 15-49 in Australia, it would be appropriate to have around 370-380 specialist obstetricians. Instead we have 4 times that number, even though the obstetric workforce is contracting.

Because of their number relative to childbearing women, and the incentives provided by current funding structures, many private obstetricians are involved in providing routine antenatal care to healthy women, which does not involve the need for their specialized obstetric skills. Labour care for their clients is predominantly provided by shiftwork midwives in public or private hospitals, with the obstetrician mainly being involved if called upon by the midwives. The exception to this is where the woman is booked for a planned caesarean section, which is increasingly the case, or the labour is induced. Most obstetricians provide limited postnatal care in the immediate postpartum period only, whilst the woman remains in hospital. With hospital length of stay after caesarean section now down to 4-5 days, this means there is little ongoing postnatal care provided.

It is arguable that there are sufficient numbers of obstetricians to provide care to the 12-20% or so of women who can be expected to require some degree of medical involvement in their pregnancy, labour or birth. The challenge is to find ways of optimizing the use of the highly specialized skills of obstetricians for the minority of women who actually need their services rather than using up their time (and at great expense) in the care of women experiencing healthy pregnancies and labours. Implementing the structural reforms outlined later in this paper to support greater access for women to continuity of care by midwives is one important strategy that will help achieve the aim of reserving the expertise of obstetricians for the women who need their care.

Shortages of GPs with obstetric qualifications can also be ameliorated with system wide use of continuity of midwifery care. Obstetric GPs work mainly in rural and regional communities across Australia, as GPs rarely provide obstetric services for labour and birth in metropolitan centres anymore. As discussed above, it is possible to provide a safe primary maternity service in a rural community that is staffed only by midwives, as long as there is a suitable referral centre with obstetric staff within 75 minutes transfer time to which the midwives can refer women and babies who need medical care.

The widespread establishment of midwifery led services (public and private) would also go a long way to resolving the current shortages of midwives in Australia. A recent Australian Research Council funded project researched the reasons why midwives are leaving the profession (AMAP 2003). Interviews with midwives found that the key reasons for midwives opting out of midwifery are stress and frustration due to:

- a lack of recognition and job satisfaction for midwives

- lack of opportunities to use and maintain skills in all areas of care
- increasing workloads and diminishing staff and resources which prevent midwives providing non-urgent or non-medical care to women
- the requirement in most rural services to also work as a nurse (a minority of midwives value the diversity of also working as a nurse. The majority want to do midwifery)
- perceived lack of respect or understanding on part of doctors and some midwifery managers of midwives' skills & knowledge as health professionals

As more midwives leave the profession these problems are further exacerbated with increasing time pressures on the remaining midwives to provide care to women and babies. A recently published collection of stories by midwives confirms the levels of frustration many midwives feel at working in systems of care where their own professional judgments and expertise are routinely being overruled or ignored and where the provision of care to women is fragmented in time and space and time pressured (Tattam 2005).

Attrition among recent graduates from midwifery courses is also a major problem. The AHWAC report found that midwives were leaving the profession faster than we are able to educate their replacements, and that a large proportion of these exits take place within the first few years of graduation (AHWAC 2002). Some analysts interpret this as a result of the graduates not being sufficiently 'work ready' to take up their role in a modern maternity unit and feel confident in their new profession. However, the reality is that graduates find a mismatch between their hard won expertise in supporting normal pregnancy, labour and birth, and providing good postnatal care, and the highly medicalised maternity units in which they are obliged to work, where the opportunities for them to use their professional skills as midwives are very limited (Teller 2005). Instead they are obliged to provide fragmented care to multiple women at once in systems that uphold medical protocols on the length of pregnancy and labour, the rate of labour, and even the positions in which a labouring woman gives birth. Such protocols may not even be well grounded in the latest research evidence. All of these factors lead to high levels of work dissatisfaction among many midwives.

International and Australian research confirms that midwives' satisfaction increases when:

- they have more professional responsibility for their clients' care,
- professional relationships with women can be formed by the midwife
- when they work in a setting where natural birth is supported and promoted
- when provision of medical care for women who need it is collaborative (REFs)

3.8 Summary of the case for greater use of midwifery expertise in maternity services

In summary, implementation of policies that would facilitate the widespread use of the full scope of midwifery expertise as a mainstream element of both public and private maternity services would:

1. address the midwifery workforce shortage through providing more meaningful and professional rewarding opportunities for midwives to work with women and their families
2. address the shortage of obstetricians, through reserving their specialist skills for the minority of pregnancy women each year who actually need their expertise
3. enable maternity services to better meet the needs and expectations of pregnant women and their families through providing greater continuity of carer, and greater access to preventative health, primary care from midwives
4. result in overall savings to the public health budget for maternity services, or at the very least, arrest the current trend to rising per birth costs per annum due to escalating rates of avoidable interventions in the labours and births of the healthy majority of women

4. Reforms that would be needed to make this solution workable

There will be a number of structural and policy changes needed in maternity care if the sustainable solution proposed in part 3 is to be achieved.

4.1 Funding reforms

One of the most important reforms that would be necessary to facilitate greater utilisation of midwifery expertise in maternity care would be reform of the methods of funding maternity services, both public and private.

The Australian Medicare scheme pays for services provided by medical specialists under the Medical Benefits Schedule (MBS) (there are a few exceptions in maternity services where pathology tests are rebateable under Medicare in the absence of medical specialists having undertaken the procedure). The restriction of MBS maternity payments to doctors creates a strong incentive to over-servicing of healthy pregnant women by specialist obstetricians. Recent media reports suggest that a major component of the alleged 'blow-out' in the Medicare Safety net can be attributed to a 70% rise in payments to private obstetricians since 1 July 2004 (Quinlivan 2004). There is also the evidence cited in Section 3.2 above, that many tens of thousands of healthy pregnant women each year are being subjected to avoidable medical interventions in their labours and births (Roberts et al 2000).

Current Commonwealth policies around private health insurance rebates also encourage tens of thousands of healthy women to seek specialist private obstetricians for their care, since access to private midwives is limited and some private health insurance providers do not reimburse women for private midwifery services.

Maternity care is thus a compelling example of the more general observation in the Productivity Commission's Issues Paper that "the widespread use of a fee-for service model....may encourage over-servicing of some groups. The current model also rewards

the repetitive provision of more basic services by highly qualified practitioners” (PC 2005, 31).

Midwives have no access to relevant MBS rebates despite having the professional expertise to provide an equivalent service to healthy pregnant women. As reflected in the AHWAC midwifery workforce data, midwives are primarily confined to being employed by public or private hospitals, and to having their contact with women funded by the relevant State government or private hospital provider. This is where a second disincentive exists to the fuller use of midwifery expertise: the acute services budget is currently reinforced by commonwealth monies in the payment of Medicare fees to medical specialists or GPs undertaking antenatal services in public hospitals. Because area health services need to be able to claim Commonwealth money to boost their already tight budgets for maternity services, they rely upon involvement of either GPs or specialist obstetricians to ‘supervise’ care by midwives in antenatal clinics and births centres. Thus for the sake of cost shifting, midwives are subjugated in their professional roles, and GPs and obstetricians are unnecessarily involved in the care of hundreds of healthy women who midwives are more than capable of caring for.

The result of these funding structures for women is less than ideal. Women tend to receive fragmented care from multiple midwives and doctors, none of whom is able to fully focus on their individual needs. In rural areas where there are large poor and indigenous communities who do not prioritise attending the GP surgery as a private paying patient for antenatal care, the result is a total lack of access to antenatal care, because it is not offered as a public hospital option. In some states like Victoria, there is only a 50/50 chance for rural women that they can access a (state-government funded) midwifery clinic, while in others, like South Australia, antenatal care in rural areas is provided by only by GPs. Patchy access to appropriate antenatal care services is reflected in the data so far in the increased risk of perinatal death for remote and rural women (Roberts et al 2000; Tracy et al 2005b).

There is currently no incentive for medical practitioners involved in maternity care to engage in a restructure of their roles. Nor does the current system afford equality of pay to health professionals with comparable skills when it comes to the care of the healthy majority of pregnant women. If the Medicare Schedule contained an item number for midwifery services, enabling women to choose to go to a midwife rather than being obliged to see a medical specialist, the landscape of maternity service provision would alter significantly. There are obviously some sections of the MBS which will never be relevant to midwives: midwives are never going to be undertaking caesarean sections for example. But with equity of access to public funding for maternity care, midwives would be encouraged to organize themselves into practice structures where they would offer primary level care across the continuum of community and hospital care. These caseload practice structures have been shown to improve both the outcomes for women and the work satisfaction for midwives (Walsh and Downe 2004; Sandall et al 2001).

If such a reform were implemented, some economic modeling of the impacts on the Medicare budget of such a change would be necessary. Yet international experience suggests that it is likely that, given the finite demand for maternity care (from around 252,000 women per annum), the effect of such a change on the Medicare budget would

be to lower the overall costs related to maternity services through a reduction in the rates of claims for the more expensive procedures and services like caesarean sections. In countries where financial incentives have been introduced to offer equal pay for equal work in maternity services the number of women seeking midwifery care (rather than medical specialist care) has increased significantly. In New Zealand, for example, following the changes to legislation in 1990 when the government recognised the scope of practice of midwives and funded them appropriately, women choosing midwifery services rather than medical services rose from 2.5% in 1990 to 75% in 2004 (Pairman 2005). The Health expenditure trends published for New Zealand show a steady fall in spending in maternity parallel to the rising cost of living (Ministry of Health 2004:65), whereas the cost of obstetrics in Australia, because it is driven by 'fee for service', without the element of 'capitation', shows significant rises in costs.

In short, the current financial arrangements provide a strong incentive to over-servicing of healthy pregnant women by specialist obstetricians and actively prevent most women being able to readily access primary one-to-one continuity of care from midwives. If there is to be greater flexibility in the use and mix of appropriate workforce skills in maternity care, then funding arrangements need significant reform, involving dialogue between both Commonwealth and state/territory governments.

4.2 Regulatory reform – prescribing rights

Midwives are involved on a daily basis in prescribing a limited range of drugs to women during pregnancy, labour or in the post-natal period. Following an interdisciplinary review of this issue, the National Health and Medical Research Council proposed that midwives should have limited test ordering and prescribing rights (NHMRC 1998). This was also identified as a recommendation following the Australia Midwifery Action Project which looked at the barriers to midwifery care in Australia (AMAP 2003). These recommended changes have been ignored. Rather than acknowledging the legitimate scope of practice of midwives that daily involves decisions about the administration of a limited range of drugs to women, the scope of practice of midwives has remained constrained both in regulation and in practice.

The effect of the continued restriction of prescribing rights for midwives has been to maintain needless inefficiencies in maternity services. Whether midwives are employed or self-employed, they have to obtain the signature of a medical practitioner to obtain and administer a finite list of drugs that are within the normal scope of midwifery practice to administer as part of the care of a healthy woman during pregnancy, labour or after the birth. An example is the synthetic hormone syntocinon, which is used to promote contraction of the uterus following birth and is a vital drug in managing post-partum haemorrhage. Implementation of the NHMRC recommendations by state and territory governments (generally through amendments to their poisons and dangerous substances legislation) should take place Australia wide as a matter of priority to put an end to the misuse of the time of both midwives and doctors in this regard.

4.3 Indemnity

Since July 2001, private midwives in Australia have been unable to obtain professional indemnity policies except through an employer. Regular contact with insurers over the past 4 years by the Australian College of Midwives has made clear that this reluctance

relates to 2 main factors: (1) the record (\$12m) payout awarded by a Sydney court in 2002 against an obstetrician for an obstetric case that took place 20 years earlier, and (2) the lack of sufficient numbers of private midwives seeking indemnity to provide an adequate pool of premiums to make coverage of a \$12m maximum risk commercially feasible.

Policies to support midwives being widely acknowledged as health professionals in the maternity services sector, such as access to public funding through Medicare or some other funding arrangement, would go a long way to resolving the indemnity problem for midwives. This creates opportunities for midwives to elect to go into private practice in significant numbers (around 40% of the NZ midwifery workforce is now self-employed) and to provide women with access to continuity of care in a wide range of communities across Australia. With greater numbers of self-employed midwives it is likely that a suitable professional indemnity policy will be obtained.

Midwives must be supported to access affordable indemnity insurance as doctors have been. In particular, they must have the opportunity to be professionally responsible and accountable for their care. This is a public interest requirement. The commonly prevailing assumption that only doctors are ultimately responsible for the outcomes for women and their babies is not sustainable or appropriate, and is a major factor supporting the ongoing under-utilisation of midwifery expertise in the delivery of maternity services.

4.4 Visiting Access to hospitals

A lack of visiting access to hospitals has long been another barrier to the effective utilization of midwifery expertise. Self-employed midwives who are contacted by women to provide private care are rarely able to obtain visiting access to hospitals in their local area. This problem has been exacerbated by the lack of professional indemnity (a requirement for visiting rights to be granted) but is a problem that pre-dates the loss of professional indemnity insurance for midwives. Those midwives who did have visiting access/clinical privileges prior to the loss of indemnity in 2001 have had those privileges withdrawn.

The effect of a lack of visiting access is that women who wish to engage the private services of a midwife for a planned hospital birth, as well as women who are transferred to hospital after planning a homebirth, are unable to have their chosen midwife provide professional services once in the hospital. Private midwives are thereby relegated to the status of support person, and are unable to provide midwifery care to the woman despite being a registered and typically highly experienced health professional. This situation needs to be rectified if maternity services are to make fuller use of midwifery expertise and these ambiguities in the status of registered midwives are to be resolved.

4.5 National consistency in education standards for midwives

To support the adequate preparation of midwives to work according to the WHO scope of practice for the midwife, there is also a need for reform to the regulation of midwifery educational program. At present, curricula for midwifery education programs are approved by each state or territory Nursing (and Midwifery) Board. There is currently no national consistency in the regulatory standards applied to assessment of these curricula.

There are currently multiple pathways to registration (or endorsement) as a midwife: a 3 year nursing degree followed by a one year graduate diploma in midwifery; a 4 year Double Degree in nursing and midwifery; or a 3 year undergraduate Bachelor degree in Midwifery (BMid). Different standards are applied to the assessment of curricula for each of these degree programs, as well as between similar degrees in different states. From the public interest perspective this situation is unsustainable and not in the interests of public safety.

In 2001, the Australian College of Midwives developed internationally benchmarked guidelines for the accreditation of the Bachelor of Midwifery programs (ACM 2001). These direct entry programs are the normal route of entry to practice midwifery in most other OECD countries (Australia and the USA being exceptions). However, only one state Nursing Board (SA) has formally adopted these standards and is applying them to BMid curricula. In other states where the same degree is being offered (Vic and NSW) the regulatory authority refers to the BMid standards but have not formally adopted them as their yardstick for assessing curricula.

For Graduate Diploma courses following a Nursing degree, offered in all States and Territories, but there is no national regulatory standard on the requirements for their education. This has resulted in major variations in the course requirements. For example in some states, students are required to be the main carer at 20 to 25 births, while in others, they need only attend as few as 10 births. Examples exist of students being registered to practice with experience of fewer than 5 births during their degree.

In early 2004, the peak body for the Nursing Boards, the Australian Nursing and Midwifery Council, released a discussion paper about the objective of achieving national consistency in midwifery education standards, however little progress has been made on this matter since that time. The Australian College of Midwives has the objective of achieving stakeholder agreement within the next few years to a single national set of standards for midwifery education; regardless of the type of midwifery program undertaken (ACM 2005). However the College has no statutory power to oblige the regulatory authorities or midwifery educators to meet such an objective, despite the evidence that supports it, other than through persuasion and goodwill. A policy stipulation/directive from state and territory health department that midwifery education should meet international standards would make the achievement of this goal in the public interest much more feasible.

In the meantime, structural change occurring in midwifery education is continuing. Six Australian universities in 3 states are now offering BMid courses that provide a method of educating midwives that is both quicker and more consistent with international midwifery education standards. A further 2 universities are preparing to commence BMid programs in 2006. The direct entry, 3 year Bachelor of Midwifery degree prepares undergraduate midwives for registration in 3 years without prior education in nursing. The courses are only currently offered in SA, Vic and NSW with an average of 30 student places in each university each year. There is huge demand from would-be midwives for these courses, with around 1,500 applications received for only 150 BMid places across 5 universities in 2005. By contrast, educators report falling levels of interest in the Graduate Diploma midwifery courses from registered nurses.

The College of Midwives anticipates that over time, the 3 year Bachelor of Midwifery degree will become the most common pathway for entry to the midwifery profession in Australia, as this is what has happened in other OECD countries that have introduced direct entry degrees in the past 20 years. Throughout most of western Europe, the UK, Canada and New Zealand, 3-4 year Bachelor of Midwifery programs are the normal route for entry to the profession

In terms of current and projected shortages of midwives, widespread use of the 3 year BMid offers to shorten significantly the elapsed time needed to educate a midwife from 4-5 years to 3 years. The majority of Graduate Diploma educated midwives take around 5 years to prepare for registration-3 years for a Bachelor of Nursing, plus some time in a clinical position, before undertaking a 12-18 month Graduate Diploma in Midwifery. While Registered Nurses wishing to articulate to the midwifery profession will always be welcome, other countries have accommodated this by granting recognition to RNs of prior learning for the first year of the 3 year BMid, with the nurse then undertaking years 2 and 3 of the BMid before qualifying as a midwife.

With the first graduates from BMid programs having only joined the workforce in 2005, there is not yet data to indicate the affect of these programs on the problem of retention of new graduates, a significant problem with graduates from the Bachelor of Nursing/Graduate Diploma in Midwifery programs. However preliminary indications suggests that these graduates, with greater theoretical and clinical experience in midwifery compared with their graduate diploma colleagues, are more confident in their practice, and are highly committed to remaining in the profession in the medium to long term.

In summary structural reform in the education of midwives is underway in Australia at present in an effort to bring Australian midwifery education into line with international standards for midwifery education. In light of the experience and standards of other OECD countries, the College anticipates that the BMid should become the mainstream form of midwifery education in Australia by the end of this decade, although nurses will continue to be able to articulate to midwifery with some recognition of prior learning.

This structural reform is being strongly resisted by other professions involved in maternity care, including some nursing and doctors' organizations. It is imperative that legislative change in each state and territory accompany this reform to provide for registration of midwives who are not nurses and to support nationally consistent education standards being upheld. This is happening slowly but should be accelerated to assist with resolving the current and projected shortages of midwives.

4.6 National consistency in registration for midwives

Consistent with the general observations in the Issues Paper, the registration of midwives in this country varies considerable between states and territories. Inconsistencies in the minimum requirements for registration/re-registration mean that there are important weaknesses in the ability of the registration system to ensure all midwives provide competent care to the public (Brodie & Barclay 2001). The College of Midwives has

commenced working collaboratively with the peak regulatory body, the Australian Nursing and Midwifery Council in an effort to strengthen the registration systems for midwives. There are some notable advances in recent years, with legislative reforms in NSW, the NT and the ACT, and a review of relevant legislation in SA. Yet we are a long way from achieving robust, transparent and nationally consistent regulation of the midwifery profession.

However progress is slow. Most states do not have a register of midwives, only of nurses. Midwives become Registered Nurses with ‘endorsement’ to practice midwifery. Direct entry educated midwives, who have no nursing qualification, are still registered as nurses, with a restriction placed on their practice that they may only practice midwifery. Direct entry midwifery graduates can obtain registration in some States only by registering in another state and seeking registration via mutual recognition agreements in their home state. This occurs despite such midwives having graduated from programs recognized as having met international midwifery education standards. This is a significant deterrent to recruitment and retention of both Australian and overseas educated direct entry midwives.

While all states and territories require annual registration or endorsement of midwives their requirements for registration vary considerably. In two states, the Regulatory Authority lacks the statutory power to require recency of practice, so a person educated in midwifery twenty years ago who has never practiced can obtain or retain registration/endorsement to practice midwifery. In one state, NSW, the lack of a recency of practice provision has persisted despite recent legislative reform in that state affecting the regulation of midwifery, and despite repeated submissions from the NSW Branch of the College during the drafting of that legislation. In such states, employers are relied upon to identify the currency and competence of midwives.

Evidence of ongoing professional development is also very varied. Recent regulatory reforms passed in the ACT (2005) provide for a separate register of midwives (from nurses) and require both professions to demonstrate evidence of their ongoing professional development from one year to the next. These reforms in the ACT regulatory regime will deliver significant enhancements to public safety from the registration process for midwives, but few other states have the same provisions. The Tasmanian Board has also tightened its registration processes for midwives in recent years, requiring midwives to sign a declaration of competence as part of renewing their registration. This requirement resulted in substantial numbers of individual registrants deciding against seeking to renew their license to practice midwifery.

In addition to causing concern about the adequacy of existing regulatory regimes to protect the public, the lack of separate and accurate registers of midwives is also a major hindrance to efforts to analyse the supply of midwives and changes in the preparation and retention of midwives over time, as the AHWAC committee discovered (AHWAC 2002). In most states and territories, midwifery workforce planning is ad hoc, with places in midwifery programs being determined not by rational assessment of the numbers of midwives needed in that state, but by the number of HECS placements funded by the Commonwealth and the universities’ need to attract funding to support its activities (see Leap et al 2002).

Such an ad hoc approach to education and workforce planning is having very negative impacts on both women and students. In Victoria, for example, there are currently 8 universities educating midwives via 3 different types of educational programs, each of which has different requirements for the numbers and types of clinical experience students must acquire to graduate. There is consequently fierce competition between universities (and sometimes between students individually) for access to pregnant and labouring women. Some ugly scenes have been occurring as a result, where students from different courses have argued in front of a labouring woman about who has more 'right' to the clinical experience of providing her care. Employers relate feeling hassled by universities, university staff are stressed about finding the appropriate clinical placements for students and students are stressed about meeting their course requirements. This all translates into pressure on the College of Midwives to change the education standards for BMid programs, despite these standards being consistent with international standards.

At the root of these problems is a lack of appropriate workforce planning and coordination by departments of health (the major employer in most states) to ensure that manageable numbers of midwifery students are taken on each year and that all students are able to access the clinical experience they require to be adequately prepared for registration at the end of their course. There is a pressing need for a more rational approach to midwifery education, starting with analysis of the number of new midwives required each year in a given state or territory and working backwards from there to determine arrangements for clinical experience to be gained.

4.7 National continuing professional development framework and credentialing for midwives

If the midwifery workforce in Australia is to be supported to assume a more valued and professionally responsible role in maternity care than it is currently afforded, there is an important need to ensure that midwives are competent and capable in the care they provide and that there are contemporary education and regulatory frameworks to support them. This is true whether they take up new roles caring for a caseload of women in either the public or private sectors, or whether they provide essential care to women in hospital wards, such as the postnatal ward.

Lack of access for midwives to continuing professional development opportunities is currently one of the factors cited by midwives as a source of stress and frustration, particularly for the 25% of midwives working outside of major metropolitan areas. It is certainly a major barrier to the enhanced effectiveness, productivity and retention of the midwifery workforce.

While there is substantial Commonwealth investment in supporting the ongoing professional development of GPs, there is currently a lack of similar support to midwives, who have equally essential skills in the provision of maternity services, especially in rural communities. Midwives' ability to access opportunities to maintain and enhance their professional knowledge and skills are also hampered by current shortages of midwives, which mean that it is often difficult to take time away from their workplace to attend

training courses and educational seminars. Those midwives who do access such programs are often obliged to do so not only at their own expense, but on leave without pay from their workplace. This situation suggests a major underinvestment by the maternity services in the professional skills of midwives, despite them being the backbone to the provision of safe maternity care.

The Australian College of Midwives is currently in the process of developing a national framework for CPD for midwives that is intended to support all midwives in their efforts to gain appropriate access to ongoing professional development opportunities. Funding is currently being sought to support the implementation of this framework Australia wide. Legislative reforms in some states and territories (most recently the ACT) are also building in requirements for evidence of continuing professional development as part of the re-registration process for midwives. Such initiatives are long overdue, but will need to be appropriately supported by employers, and particularly by state governments as one of the major employers of Australian midwives.

The College of Midwives is also working on the development of a national credentialing program for midwives being funded by the Australian Council for Safety and Quality in Healthcare. This program, called Midwifery Practice Review, will provide a transparent peer review mechanism for supporting midwives to reflect on their midwifery practice and to identify and act upon their learning needs, so as to ensure that they provide the highest possible quality care to women and their families in their area of practice. The program will be developed in consultation with a wide range of stakeholders, including members of relevant medical professions and state departments of health. It will provide a process for assuring governments and the community alike about the capabilities of midwives.

4.8 Facilitating cultural change

While all States and Territories now have at least one public caseload midwifery service, fewer than 3% of pregnant women each year can access them, and mainly only in capital cities or outer metropolitan areas (Tracy et al 2005). There is also variability in how these services are run, with some being forced to operate under obstetric protocols rather than midwifery ones, and with these protocols sometimes not being evidence based.

Relationships between such caseload midwifery services and medical practitioners also vary widely. In some services individual obstetricians (specialist or GP) are entirely comfortable with the service and value and respect the expertise of the midwives. In others, there is open and sometime public hostility resulting in women receiving less than optimal care when being referred by her midwife, as was recently reported in an independent evaluation of a Brisbane service (Nicholl & McCann 2005). There is also evidence of strident in principle opposition from some elements of the obstetric profession to the establishment of midwifery-led services, despite such services having proven referral mechanisms to obstetric care and excellent perinatal and maternal outcomes (Tracy et al 2005a; Tracy 2005c).

The commonplace imposition of obstetric protocols on midwifery led services is indicative of the lack of recognition and understanding of the complementary expertise

that midwives bring to the care of pregnant women and new mothers. It indicates that some obstetricians and service managers are not comfortable with trusting the professional judgments of midwives about when a woman's care requires the involvement of a doctor, and when her pregnancy, labour and newborn care are within the realm of normal. This continues to be a major problem in maternity services despite the development and widespread use by midwives of the evidence based consultation and referral guidelines published by the College of Midwives in 2004.

Problems with seamless referral to medical care have also been a vexed issue for many years for midwives who choose to be self employed and offer their services to women privately, especially to women planning homebirth. Many obstetricians in Australia remain ill informed about the safety of homebirth for a low risk women in the care of an experienced midwife, despite evidence confirming the safety of this option for women who desire it (Johnson & Daviss 2005). Without access to medical indemnity (since a market failure in mid 2001) private midwives have been unable to gain visiting access to hospitals, so when they make the decision to transfer one of their clients to a hospital, they cease to be able to provide professional care to the women once they enter the hospital. Given that private midwives in Australia (currently numbering less than 2% of the midwifery workforce) are often among our most experienced and capable health professionals, with robust records of safe practice, this situation is undesirable for consumers and inefficient.

If we are to be successful in optimizing the use of midwifery skills and knowledge as a strategy to address the workforce problems facing the maternity services sector today, then strategies to address cultural barriers to midwifery will need to be an essential element of any reform. At present the profession of obstetrics (and to a lesser extent General Practice) have little or no incentive to welcome midwives as peers and colleagues in the collaborative provision of maternity care. Given the substantial economic interests involved in the current system for delivering maternity care, calls from midwives for the opportunity to care for healthy women are regarded by some obstetricians as threats, with allegations frequently made in the media that mothers and babies will die if such reform is implemented. Such allegations fly in the face of available research evidence on best practice maternity care, from both Australia and abroad.

Midwifery never has been and never will be a substitution for medical care for women who have complex needs during pregnancy or childbirth. However midwives are suitably qualified and experienced health professionals for providing primary care to the tens of thousands of Australian women each year who experience a healthy pregnancy and birth, who are currently receiving unnecessary medical care for a normal life event. Midwives are also essential partners in providing collaborative care to women who experience complications and require obstetric treatment during pregnancy or birth. There is a need for national strategies to educate doctors and medical students about what midwifery is and about its complementary role to obstetrics. Optimal outcomes for women and babies are only likely to be achieved when there is genuine collaboration between midwives and doctors that is based on mutual respect and understanding of one another's role and contribution in providing best practice care to women and their families.

5. Policy recommendations for resolving maternity workforce issues

Bearing in mind the Commission's responsibility to focus on systemic constraints on the health workforce, rather than focusing on the more specific problems of individual professions, the Australia College of Midwives would like to make the following summary observations and recommendations in relation to the maternity services sector:

1) Strategic assessment of skills mix in maternity workforce is needed

There are recognised shortages in the midwifery workforce in Australia as in other resource rich nations (AMAP 2003; Aiken 2003; Buchanan et al 2000; Finlayson et al 2002; Tracy et al 2000; Wood 1959) that are not adequately addressed in health workforce planning ventures to date. A major reason for such failure is the lack of appropriate structures for health workforce planning to address what we see as the underlying problem in the midwifery workforce. There is no capacity in Australia at the moment to recognise and remunerate midwives for their full scope of practice. Australia needs to move beyond identifying the *number* of midwives currently in the workforce to identifying *skill shortages* in the systems of maternity care.

The Commonwealth government should lead a strategic assessment of the workforce skills needed for the delivery of high quality and cost effective maternity care. It is widely assumed that traditional approaches to service provision (with highly trained specialists obstetricians routinely providing care to low risk, healthy pregnant women) is the only safe and desirable way to provide care, despite extensive research evidence that this is not the case.

This is perhaps most compellingly put by the (obstetrician) authors of the celebrated international text: *Guide to Effective Care in Pregnancy and Childbirth* who wrote:

'As technical advances became more complex, care has come to be increasingly controlled by, if not carried out by, specialist obstetricians. The benefits of this trend can be seriously challenged. It is inherently unwise, and perhaps unsafe, for women with normal pregnancies to be cared for by obstetric specialists, even if the required personnel are available....Industrialized countries in which midwives are the primary caregivers for healthy childbearing women have more favourable maternal and neonatal outcomes, including lower perinatal mortality rates and lower caesarean delivery rates, than countries in which many or most healthy women receive care from obstetricians during pregnancy'(Enkin et al 2000, 21-22.

2) Obstetricians skills (GP and specialist) should be reserved for women with need of medical care. The healthy majority of women should be cared for by midwives (public or private).

There is a strong case for making much fuller utilization of the midwifery

profession as a solution to workforce shortages in maternity care. The skills of specialist and GP obstetricians (which are in short supply) should be being reserved for the minority of women who need them, thus requiring fewer obstetricians to provide care for the 252 000 women currently having a baby each year in Australia.

There will always be a need for obstetricians (both GP and specialists) to be available to provide care to women who have pre-existing medical conditions prior to pregnancy (around 2% of women), or who have a history of previous obstetric complication (around 10%). However the percentages of women currently receiving obstetric services (70-80%) could be dramatically reduced through an expansion in the role of midwives in providing care to women experiencing normal pregnancy and birth.

Midwives are capable of providing high quality, safe and competent care to the health majority of pregnant women on their own responsibility in both urban and rural areas with adequate support networks and infrastructure. Opportunities to work in more flexible ways, collaboratively but with professional autonomy, will ensure that we attract and retain midwives.

3) Current maternity funding policies act as a major barrier to the effective utilisation of midwifery expertise

Structural mechanisms, such as the provision to doctors (GP and specialist) but not midwives of Medicare Provider Numbers, the Medicare Safety Net policy, indemnity rebates and subsidies for ongoing education, etc, strongly reinforce the status quo and continue to ensure that the midwifery profession remains under-utilised and largely controlled by the medical professions. This is not in the best interests of women and their families, or in the best interests of taxpayers.

4) Extensive use of midwives to provide primary healthcare to women and families is supported by research evidence and by international experience as beneficial for mothers and babies and as cost effective.

Implementing national strategies to enhance the productivity and effectiveness of the midwifery profession will not only enhance the quality and sustainability of Australian maternity services, but reduce the per birth cost of maternity services.

Primary midwifery services, through both the public and private health systems, can also help to better meet the needs of women living in rural communities and of Indigenous women.

5) To substantially realign the skill mix of maternity services will require regulatory and structural reforms as well as incentives for collaboration from those with a vested interest in the status quo

Reforms are needed to validate the legitimate role of the midwifery profession

in providing maternity care to the healthy majority of women, with appropriate consultation and referral for those women/babies who also need medical care.

Women should be able to choose to access care from the health professional of their choice, as is the case in New Zealand and other OECD countries, rather than being routinely channeled into medical care for their pregnancy and birth.

6) Like their medical colleagues, Midwives should be supported to choose to practice privately if they so wish through the removal of barriers to private midwifery practice.

Barriers include a lack of access to public funding for services provided by midwives, a lack of visiting access to provide private care in public hospitals, a lack of prescribing rights for relevant drugs (such as syntocinon for post-partum haemorrhage), a lack of access to affordable professional indemnity insurance, and a lack of referrals from GPs.

7) The key reforms needed to facilitate a productive, capable and accountable midwifery workforce, and to address the current maternity workforce shortages include:

- a) Provision of access midwives to public funding for maternity services, through providing Medicare Provider Numbers to midwives. This would help to mitigate Commonwealth state cost shifting would support both public and private midwifery services to flourish
- b) Legislative reforms in the states/territories to provide midwives with limited prescribing rights and authorization to order and interpret relevant diagnostic tests in accordance with the NHMRC recommendations of 1998
- c) Government support (such as that being provided to medical practitioners) for midwives to access medical indemnity
- d) State/Territory government policies that support granting of Visiting Access/Clinical privileges for midwives to public and private hospitals
- e) Commonwealth and state/territory governments cooperating to achieve national consistency in the regulation, registration and education of midwives
- f) Legislative and funding support for the expansion of 3 year Bachelor of Midwifery education programs to all Australian states and territories.
- g) Government and employer support for midwives to regularly access ongoing professional development opportunities to maintain and enhance their professional knowledge and skills
- h) National strategies to support cultural change in the collective attitude of medical practitioners towards midwifery to support collaborative care focused on the needs of women and babies.

REFERENCES

ACM 2001 *Standards for the Accreditation of 3 Year Bachelor of Midwifery Programs*, Australian College of Midwives, Melbourne.

ACM 2004 *National Midwifery Guidelines for Consultation and Referral*, Australian College of Midwives, Canberra.

ACM 2005 *Midwifery Education Position Statement of the Australian College of Midwives*, February 2005.

AHWAC [Australian Health Workforce Advisory Committee] 2002, *The Midwifery Workforce in Australia: 2002-2012*, Sydney

AIHW [Australian Institute of Health & Welfare] 2001 *Report on Maternal Deaths in Australia 1994-1996*, Canberra

AIHW [Australian Institute of Health & Welfare] 2004 *Maternal Deaths in Australia 1997-1999*, Canberra

AMAP Report 2003. *The Australian Midwifery Action Project: Final Report*. Barclay L, Brodie P, Lane K, leap N, Reiger K, Tracy S. Centre for Family Health and Midwifery, UTS, Sydney 2003

AMWAC [Australian Medical Workforce Advisory Committee] 1998 *The Obstetrics and Gynaecology Workforce in Australia: Supply and Requirements 1997-2008*, AMWAC Report 1998:6, August.

Australian Senate Community Affairs Reference Committee. 1999. *Rocking the Cradle: a report of childbirth procedures*. Canberra. Commonwealth of Australia 1999. Available at http://www.aph.gov.au/senate/committee/clac_ctte/index.htm

Barclay L 1995, 'The education of midwives in Australia: current trends and future directions', In T Murphy-Black (eds) *Issues in Midwifery*, Churchill Livingstone Edinburgh.

Barclay L, Cockburn J, 2002 Commentary II The unfacts of Request Caesarean Section *British Journal of Obstetrics and Gynaecology* 109:597-605

Brodie P, Barclay L, 2001 Contemporary Issues in Australian Midwifery Regulation. *Australian Health Review* Vol 24; Issue 4:103-118

Brodie P, 2002 Addressing the barriers to midwifery, *Australian Journal of Midwifery* 15 5-14.

Coochie C, Nabigon H, 1997 "A path towards reclaiming Nishnawbe Birth Culture: Can the Midwifery Exemption Clause for Aboriginal midwives make a difference?" in Shroff, F ed. *The New Midwifery: Reflections on Renaissance and Regulation*, Women's Press, Toronto.

Enkin M, Kierse M, Neilson J, Crowther C, Duley L, Hodnett E, Hofmeyr J 2000 eds *Effective Care in Pregnancy and Childbirth*, Oxford University Press, Oxford p 21-22

Homer C, Davis G, Brodie P, Sheehan A, Barclay L, Wills J, Chapman G 2001a. Collaboration in maternity care: a randomised controlled trial comparing community-based continuity of care with standard hospital care *Br J Obstet Gynaecol* 2001;108:16-22

Homer, C., Matha, D., Jordan, L., Wills, J., Davis, G. .2001b Community-based continuity of midwifery care versus standard hospital care: a cost analysis. *Australian Health Review*. 24 (1): 85-93.

Houd S, Qiunajuak J, Epoo B 2004 The Outcomes of Perinatal Care in Inukjuak, Canada 1998-2002, *International Journal of Circumpolar Health*, 63 Supp 2: 239-241

Jackman C 2003 Older Mothers Boost Caesarean rates, *The Australian*, Friday may 30 2003, 5

Johnson K, Daviss B 2005 Outcomes of planned home births with certified professional midwives: large prospective study in North America *British Medical Journal* 330;1416, 16 June 2005.

Kaufert P & O'Neil J, 1988 "The Politics of Obstetric Care: The Inuit Experience." Unpublished paper, Department of Community Health Services, University of Manitoba: Winnipeg.

Laws PJ, Sullivan EA. Australia's mothers and babies 2002. AIHW Cat. No. PER 28. 2004. Canberra, Australian Institute of Health and Welfare. (Perinatal Statistics Series No. 15)

Leap N, Barclay L, Nagy E, Sheehan A, Brodie P, Tracy S 2002 Midwifery Education *National Review of Nursing Education*.

Lydon-Rochelle M, Holt VL, Martin DP, Easterling TR. Association between method of delivery and maternal rehospitalization. *JAMA* 2000; 283(18):2411-2416.

NHMRC [National Health & Medical Research Council] 1996, *Options for effective care in childbirth*, NHMRC, AGPS, Canberra.

NHMRC [National Health & Medical Research Council] 1998, *Review of services offered by midwives*, NHMRC, AGPS, Canberra.

Nichol M, McCann Y 2005 *Review of Birth Centre Services, Royal Brisbane and Women's Hospital*, Queensland Health, March.

NZ Ministry of Health. *Report on Maternity 1999*. Wellington, New Zealand.
<http://www.moh.govt.nz>

NZ Ministry of Health 2000. Health Funding Authority, *Maternity Services: A Reference Document*. November 2000 <http://www.moh.govt.nz/moh.nsf/>

PC [Productivity Commission] 2005 *The Health Workforce: Productivity Commission Issues Paper*, May 2005.

RDAA [Rural Doctors Association of Australia] and ACRRM [Australian College of Rural and Remote Medicine] 2005, 'Obstetric Services in Small Rural Hospitals' Symposium, Alice Springs, 10 March

Roberts, C.L, Tracy, S., Peat, B 2000. Rates for obstetric intervention among private and public patients in Australia: population based descriptive study, *British Medical Journal* 2000; 321:137-141 <http://bmj.com/cgi/content/abstract/321/7254/137>

Rowley MJ, Hensley MJ, Brinsmead MW, Wlodarczyk JH 1995, Continuity of care by a midwife team versus routine care during pregnancy and birth: a randomised trial. *Medical Journal of Australia*. Vol 163, no 6, pp 289-193

Sandall J, Davies J, Warwick C 2001, *Evaluation of the Albany Midwifery Practice: Final Report*. March 2001. Florence Nightingale School of Nursing and Midwifery. London. 2001.

Smith GCS, Pell J, Bobbie R. 2003 Caesarean section and risk of unexplained stillbirth in subsequent pregnancy. *Lancet* ; 362(9398):1779-1784.

Tattam A, Kennedy C, 2005 *Labour of Love: Tales of Midwives*, Pan Macmillan, Australia.

Teller, E 2005 My Life as a critical incident *Australian Midwifery News*, Australian College of Midwives Vol 5 No 2 Winter 2005

Thomas J, Paranjothy s, James D 2004 National Cross Sectional Survey to determine whether the decision to delivery interval is critical to emergency caesarean section, *British Medical Journal* doi:10.1136, 15 March 2004

Tracy S, Barclay L, Brodie P. 2000 Contemporary issues in the workforce and education of Australian midwives. *Australian Health Review* 2000; 23(4):78-88.

Tracy S, Tracy M. 2003 Costing the cascade: estimating the cost of increased obstetric intervention in childbirth using population data. [see editorial] *British Journal of Obstetrics and Gynaecology*; 110:717-724

Tracy SK Hartz D Nicholl M McCann Y Latta D 2005a An integrated service network in maternity — the implementation of a midwifery-led unit. *Australian Health Review* . August 2005 *In press*

Tracy SK Sullivan ES Dahlen H Wang YA Black D Tracy MB 2005b Does size matter? A population based study of birth in lower volume maternity hospitals for low risk women. *BJOG In Press* 2005

Tracy SK 2005c Ryde Midwifery Group Practice, *Australian Midwifery News*, Vol 5 No 2 Winter 2005.

Quinlivan, B 2004 'Medicare Cuts and Artery' *Business Review Weekly*, Nov 11-17 2004

Walsh D Downe SM. 2004 Outcomes of FreeStanding, MidwifeLed Birth Centers: A Structured Review. *Birth* vol **31**,pp 222-30.

WHO [World Health Organisation] 1999. *Care in Normal Birth: a practical guide*. WHO/FRH/MSM/96.24 www.who.int/rht/documents/MSM96-24/msm9624.htm

Wood A 1959 The shortage of midwives. Letters to the Editor. *Lancet* 21 Feb. 1959:417