An integrated service network in maternity — the implementation of a midwifery-led unit

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Abstract

Maternity services in Australia are in urgent need of change. During the last 10 years several reviews have highlighted the need to provide more continuity of care for women in conjunction with the rationalisation of services. One solution may lie in the development of new integrated systems of care where primary-level maternity units offer midwifery-led care and women are transferred into perinatal centres to access tertiary-level obstetric technology and staff when required.

This case study outlines the introduction of caseload midwifery into an Area Health Service in metropolitan Sydney. Our objective is to explore the concept of caseload midwifery and the process of implementing the first midwifery-led unit in NSW within an integrated service network. The midwife-led unit is a small but growing phenomenon in many countries.[1] However, the provision of "continuity" and "woman-centred" midwifery care involves radical changes to conventional hospital practice.

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What is known about the topic?

Free-standing birth units are emerging in response to consumer pressure for a more "woman-centred" maternity service, while the viability of small maternity units is under challenge. The providers of maternity care are divided in their views about the optimal models of care and professional roles.

What does this paper add?

This case-study reports on the emergence of the first free-standing birth centre to be established as part of an integrated service network in Australia, using caseload midwifery. The caseload midwifery model, linked with a specialist referral and consultation role for obstetricians, is explained.

What are the implications for practitioners?

This model may help to improve the viability of maternity services in rural areas of Australia. Both midwives and obstetricians stand to gain from the redesigned scope of practice.

OUR AREA OF INTEREST is a small peripheral maternity hospital of about 500 births per annum within a major Area Health Service (AHS) in a metropolitan area. The small hospital was beset with a series of problems including the loss of obstetric anaesthetic services, and a state policy direction to centralise and integrate maternity services to a tertiary level.[2] This is a recurring theme among small maternity hospitals in rural, regional and metropolitan areas of Australia.

What is caseload midwifery?

In a caseload model, midwives provide total care for a defined caseload of women. Forty women per year per midwife and 40 back-up cases are generally considered a full time caseload, with an allowance for annual leave. The primary midwife provides antenatal, labour and postnatal care for the same woman. When complications arise at

any time during the pregnancy or birth there is a defined mechanism for consultation and referral, through guidelines specifically designed to assist in this process. [3] Guidelines for consultation and referral are pivotal in defining safe and appropriate practice parameters. They help in providing a working framework for collaboration and partnership which are the central tenets of the model.

Caseload midwifery care is offered in a "seamless" manner between hospital and community, and the caseload midwife is on-call for extended periods of time. Each caseload midwife works with a back-up midwife, and both get to know the women in each other's caseload to cover for time off. A group practice of six to eight midwives is able to allocate caseloads evenly, provide mutual support, a forum for peer review of practice, and back-up in times of crisis such as sickness or long periods of sleeplessness.[4] It is imperative that funding for the caseload model of care allows flexibility for midwives in the allocation and organisation of work, and in work practices. This flexibility has been shown to lower the risk of "burnout" as it increases continuity, job satisfaction and control over work.[5] The provision of an on-call service for labour and birth requires a profound shift in patterns of working and responsibility. It also demands an all-round proficiency of knowledge and skill levels.

For caseload practice to work, midwives can no longer be locked into the rotating roster systems of their employing hospital. Such a radical departure from traditional practice has been a major stumbling block for health services, mainly because of the belief that "case loading" would not be cost effective. Midwives, on the other hand, are reluctant to push for caseload practice reform until a major system change is implemented, and new industrial awards recognise a change from employment in a rostered and rotating environment to an annualised salary arrangement. Reluctance to change is driven by a real fear of burn-out, and the unrealistic expectations placed on midwives to juggle continuity of care and being on call, on one hand, with also having to undertake rostered shifts in wards to supplement their quota of full-time hours per week.

Introducing the Midwifery-led Unit

Following the loss of anaesthetic personnel and the threatened closure of the small maternity unit, the General Manager of the hospital established a steering group of stakeholders representing all areas of interest in the new model and including consumer representatives. The terms of reference were developed at the first meeting and a working party set up. The terms of reference were agreed as follows: to design and implement a maternity service supporting normal pregnancy and childbirth at the small hospital, along with developing a partnership with the tertiary hospital which is 15 kilometres away. The objectives were to oversee the development of a safe and sustainable service-delivery model based on evidence, and meeting the needs of the local community; to develop an implementation plan and timeline; and to oversee the development of an evaluation process.

Barriers and facilitators

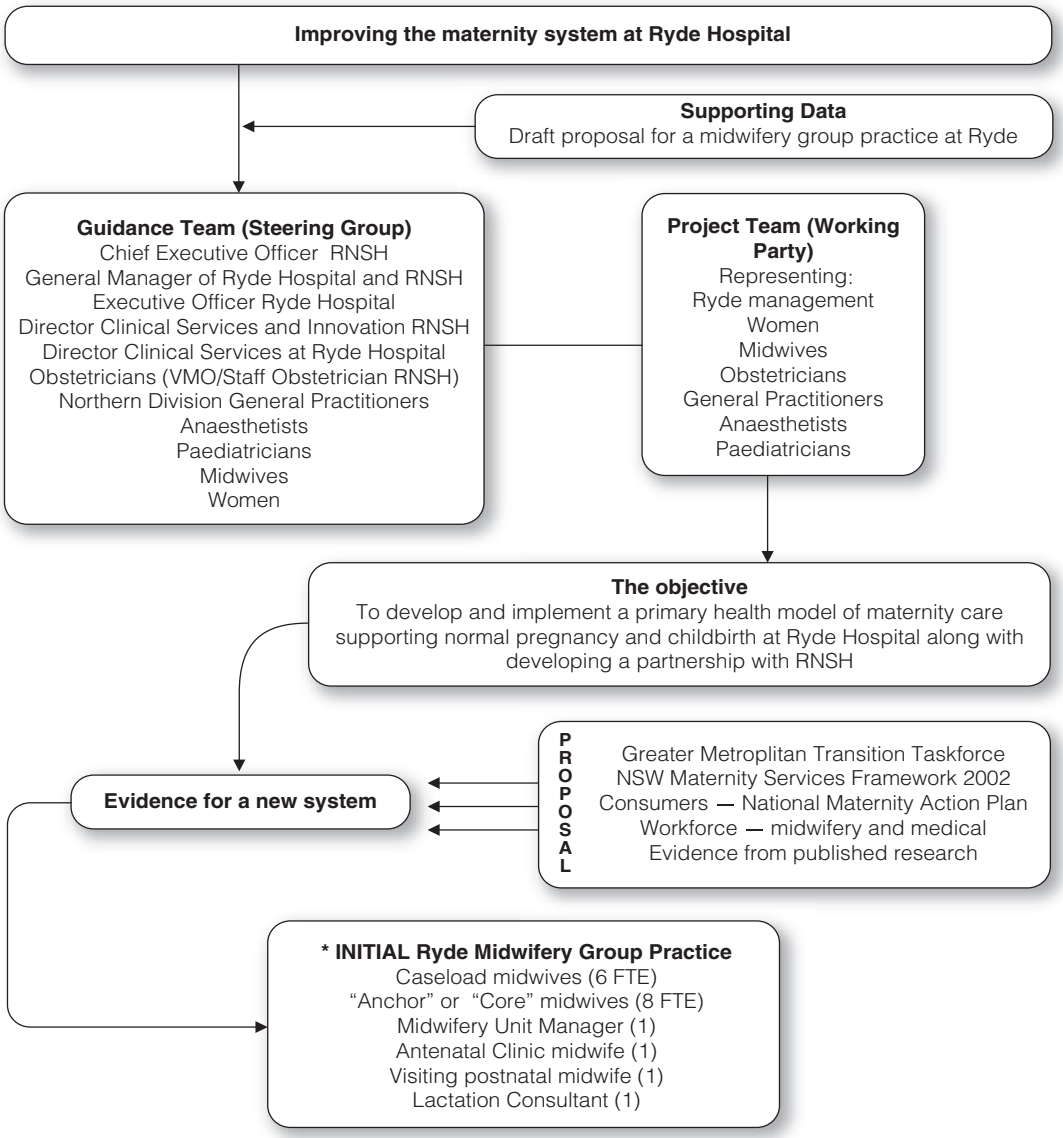
The barriers to change in setting up such a model were manifold. At a professional staff level there was resistance from the anaesthetists who expressed concerns over the lack of an anaesthetic registrar or additional staff cover to ensure a safe service. The visiting obstetricians felt they could not continue to offer a service without the availability of anaesthetics. In general, the medical professionals were unhappy about continuing the service in its current form and preferred to see it closed. The midwives were divided. Some were initially unsure about offering a service without the "on-site" back-up of obstetric and anaesthetic staff, although they enjoyed working in a small cohesive unit. Others had experience of caseload care and felt the evidence was sufficient to warrant designing a new system to introduce this model.

In the wider context of the service, the AHS executive was sceptical but open to debate. Strong consumer demand for a local service was evident. The demographics of the area show a "silent" large ethnic population whose language needs were well catered for in the existing small unit by some of the midwives and through the availability of interpret-

ers. The small unit was easily accessible by public transport for those families living to the west, but the bus did not run as far as the tertiary hospital 15 kilometres further on.

On the facilitative side, several of the midwives currently employed at the small hospital had worked as homebirth midwives overseas, and were keen to devise a new service model

The process of implementing a new "low risk" maternity service at Ryde hospital — the Ryde Midwifery Group Practice, 2004



Source: Based on the Project and diagnostic phase *from* The clinician's toolkit — for improving patient care. *NSW Health Department, 2003. RNSH = Royal North Shore Hospital. FTE = full-time equivalent.*
** This was the original arrangement of midwifery staff.*

based on continuity of care through a "one-to-one" midwifery model. The system had been developed successfully in the UK, and the evidence shows that such a system is safe and popular with women.[6-8] The midwives felt there was a wealth of midwifery experience and skill that was as yet untapped in the current system. The General Manager of the proposed new integrated service (incorporating the small hospital and the large tertiary unit 15 kilometres away) was both enthusiastic and supportive of reform. Politically, the time was right to put forward new ideas to revitalise the service and to address the most recent Health Department initiatives outlined in the NSW Maternity Services Framework 2000.[9] There is also evidence from three excellent randomised controlled trials of models of continuity of midwifery care within NSW that demonstrates a capacity to reduce costs and simultaneously benefit organisations while improving the birth outcomes and satisfaction for women and babies.[10-13]

The model

A draft proposal for the new model was drawn up by the chair of the working party, who was the professor of midwifery practice development for the area, and presented for consideration to the second meeting of the steering group. The Box illustrates the mechanism for consultation and the process for implementing the new midwifery-led model that became known as the Ryde Midwifery Group Practice.

The target population

The option of caseload midwifery care was to be offered to any woman booking at Ryde Hospital without identified risk markers in her pregnancy. Women were to be advised that no epidural anaesthetic was available and that should they require an epidural during labour they could be transferred to the tertiary-level hospital, Royal North Shore Hospital (RNSH). Women were also advised that if they had had a previous caesarean section, or were to be booked for an elective caesarean section, they would not be able to book at Ryde.

Intervention objectives for the women and babies

The new system was designed to offer women the option of a "known" midwife for their pregnancy, labour, birth and postnatal follow-up, through providing care where appropriate in the community. Women would see the same midwife for antenatal visits and screening procedures; they would contact their midwife when labour commenced; their midwife would attend them in labour and birth and then visit them at home for the first few weeks after the baby was born. There would not be any need to attend public antenatal clinics or to phone the delivery ward when labour commenced. The known midwife was to be the first point of contact for all information and would actively involve them in decision making. New mothers would be provided with information about community services and information about general practitioner (GP) services in their area.

The intervention objectives for babies included increased breastfeeding rates — especially increasing the rates beyond the first few postnatal weeks; stronger links to earlier community follow-up which would affect immunisation initiation and awareness; and the earlier detection of potential problems that may occur in the first months of infancy.

Intervention objectives for the midwives

A "Midwifery Group Practice" was formed with midwives nominating to work in the new model. They formally agreed to an annualised salary. This was a new agreement drawn up between the AHS and the industrial union and agreed by the midwives. They arranged themselves in working pairs to timetable back-up support and negotiate time off and holidays within the assigned-monthly-hours schedule approved by the union and the AHS. Those who did not see themselves offering full-time caseload care opted to remain part of the core service at the small unit, operating under the same practice guidelines as the

caseload midwives. These midwives fill the rotating roster at the small unit, so there is always a midwife on duty in the small maternity unit.

All the midwives agreed at the outset that they preferred to work in a situation where epidurals, inductions, routine episiotomies and other forms of medical intervention were *not* first line options. They were to promote and emphasise normal physiological pregnancy, labour and birth. Many midwives felt that the midwifery skills needed to promote intervention-free labour and birth would now be better recognised and valued. The new arrangement offered an enhanced ability to get to know the women being cared for and to self-manage the caseload, both primary cases and back-up cases.

These changes were intended to increase job satisfaction and to expand and extend the role of midwives in accordance with National Health and Medical Research Council,[14] NSW Midwifery Taskforce[15] and the Australian Midwifery Action Project[16] recommendations for midwives' scope of practice. The changes would provide an opportunity for the caseload midwives to practice in a primary health care role, within a hospital and community structure in close collaboration with GP–obstetricians, specialist obstetricians, interpreters, child health nurses, drug and alcohol services, social workers and other relevant health professionals. In establishing more flexible working arrangements the objective was to meet the needs of individual women and of a predominantly female midwifery workforce.

Intervention objectives for doctors and other health professionals

For doctors and other health care providers, the system changes were designed to ensure that there was one midwife with whom to discuss and arrange a plan of care for each woman. The objective was to strengthen collegial relationships and to ensure better coordination and availability of information, establishing stronger links with GPs and other community medical services during the antenatal time and after discharge from postnatal care.

Intervention objectives for the organisation

The organisation could redefine the provision of maternity services based on the best available evidence and implement a more comprehensive, integrated approach to change. The organisation stood to benefit from an opportunity to lead the introduction of new primary care models within the maternity services and to test the sustainability of a midwifery-led unit as mainstream care. It could offer a solution to problems associated with obstetric and midwifery labour force shortages by concentrating specialist services in the tertiary unit and making better use of appropriate primary-level services offered by skilled midwives. In addition, by supporting antenatal and postnatal groups in community-centre locations, the intervention objectives for community services could be better achieved. These include earlier referrals where women become more familiar with the available community services; closer links with "Families First" nurses;[17] and access to women's consumer support groups that exist outside an acute hospital service, in the community.

Methods and strategies

The establishment of the midwifery-led unit through the Ryde Midwifery Group Practice represents a reorganisation of existing midwifery services to meet the needs of women attending the hospital as public patients. The maternity service has become a primary maternity facility offering 24-hour midwifery care for women having an uncomplicated pregnancy and birth and has the capacity to respond to unexpected emergencies that may arise during the course of normal labour and birth, or through unplanned presentations. When medical care is required, women are transferred to the tertiary hospital by ambulance.

In the event of a dire emergency, involving immediate threat to the life of the mother or baby, a staff specialist from the tertiary hospital would travel to Ryde to perform an emergency operative delivery (including caesarean section) at the adjoining hospital. A roster of senior staff

obstetricians employed at the tertiary hospital 15 kilometres away provides all emergency cover required. This replaces the on-call roster of privately practising obstetricians (VMOs) who had offered the service before the change. The transit time from Ryde to the tertiary-level hospital varies between 10 minutes and 35 minutes depending on traffic and the time of day. In addition, a telephone "hotline" is available at all times for midwives at Ryde who may need further advice or want to discuss the appropriate course of action. This service is offered by senior midwives rostered with a senior obstetrician from the tertiary unit.

Appropriate and intensive screening procedures underpin the safety and effectiveness of the model. When complications arise at any time there is a defined mechanism for consultation and referral to the tertiary hospital.[3] Guidelines clearly outline, for women and midwives, those who could expect to receive appropriate low-risk care at the midwifery-led unit. At the time of booking in, women consult with the antenatal clinic midwife and are offered the option of caseload or standard care at Ryde.

As part of the new "integrated network" arrangement between the midwifery-led unit and the tertiary maternity hospital, a visiting senior staff obstetrician visits weekly to review any case notes of women identified by the midwives for further consultation. Women are also "networked" into the post-dates clinic and other high-risk assessment clinics at the tertiary hospital when reassurance or assessment is required rather than undergoing a total transfer of care to the obstetric team. This integrated networking ensures that women who are otherwise without identified risk markers can be seen by an obstetrician and their situation can be reassessed more closely to meet the individual needs of each woman.

Issues in quality and safety

The midwives practising within the new model are covered by indemnity insurance within the public health system, negotiated by NSW Health. In addition to this, a complete risk assessment exercise was undertaken by a multidisciplinary taskforce from the AHS and a consultant risk assessor with the NSW Government insuring agency. A comprehensive document was produced using Severity Assessment Codes to underscore all the processes and controls that have been identified and put in place to address any questions of safety and accountability. The process and controls identified in this exercise are the basis for the clinical indicators arrived at by consensus within the multidisciplinary "risk working party". We also note that the new service was awarded a high commendation in the annual awards of the NSW Treasury Managed Funds, 2004, "in recognition of the development and implementation of the clinical risk assessment of an innovative midwifery led model of maternity care for Ryde hospital" in the risk assessment category.

National midwifery guidelines for consultation and referral [3] were drawn up by the professor of midwifery during the working party meetings with the explicit purpose of providing consistent and safe guidelines for practice. Following wider consultation, they were endorsed by the Australian College of Midwives in 2003 and are currently in use in most of the major teaching maternity hospitals in Australia.

Further guidelines and algorithms have been developed to address specific issues which may require further action by the midwives. For example, there are policy guidelines for "booking in", "transport by ambulance in labour" and "management of premature rupture of membranes at home". The unit has also undertaken mock-disaster procedures to identify where there are gaps in the lines of communication between midwives and other personnel.

Issues in professional development

Professional isolation and burn-out remain a potential disadvantage with this form of practice. To combat this, midwives are well linked within the AHS to facilitate involvement in educational programs and opportunities for professional support and development, clinical

standards review, and debriefing. A peer-review session is held weekly. This offers midwives the opportunity to review cases where women were transferred or needed further medical intervention. The senior staff obstetrician from the receiving tertiary unit is usually in attendance to participate in the discussion. In addition, midwives hold a weekly practice meeting to discuss core business and allocate caseloads. All midwives working in the model undertake the Advanced Life Support in Obstetrics training, as well as identified upgrades in practice areas such as suturing and neonatal resuscitation as a prerequisite before taking a caseload.

One year on ...

The Ryde Midwifery Group Practice began operation officially on 15 March 2004 after the service was unanimously endorsed by the board of the AHS. This followed almost a year of monthly working party meetings and 3-monthly steering group meetings in which many problems and difficulties were ironed out. At the meetings, the groups of professionals involved placed their grievances on the table to try to work them out collaboratively with an end result that everyone could live with.

A report card of the first 100 bookings with the Ryde Midwifery Group Practice was prepared to mark the first anniversary of the service. It shows that the relevant quality and safety checks have become part of every-day practice, and the rates of transfer and operative birth are well below the projected levels.

The obstetricians in private practice were not able to agree to the new model of care and officially withdrew their services. They have consistently voiced their fears for the safety of the model, including through a cover story in the AMA newsletter[18] and AMA press releases on their websites in Queensland, New South Wales and Victoria. The local newspaper for Ryde, the *Northern District Times*, also published the negative opinion of a local surgeon.[19] Naturally, such publicity tends to undermine public confidence in the service and the morale of the midwives who are doing their best to manage system changes. The senior medical staff specialists (obstetricians, gynaecologists and paediatricians) within the AHS have found the changes challenging but have agreed to offer steady support for the new service.

Evaluation

One of the requirements of any reform is rigorous evaluation. In keeping with recommendations, extensive data for the evaluation of practice outcomes for both women and babies have been collected since the outset of the program, and regular peer review processes have been established.

Conclusion

Changes in maternity care should ideally be based on collaboration and cooperation across all levels of service provision. The service itself crosses the acute hospital and community boundaries, enabling it to achieve a balance between hospital-based and community-based care. The rise in consumer participation combined with other significant social trends, such as the spiralling rise in insurance claims for medical negligence in obstetrics and an increasing global concern for the over-medicalisation of birth, support this method of maternity reform that is geared towards making the system more responsive to women. The implementation of the service has been achieved — next, the evaluation of the Ryde Midwifery Group Practice should provide policy makers with much needed data to shape future maternity service reforms.

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Competing interests

None identified.

References

1 Walsh D, Downe SM. Outcomes of free standing, midwife led birth centres: a structured review. *Birth* 2004; 31: 222-30.

2 NSW Health. Greater Metropolitan Transition Taskforce (GMTT): GMTT Metropolitan Hospitals Report. Sydney: NSW Health, 2002.

3 Australian College of Midwives Incorporated. National midwifery guidelines for consultation and referral. Canberra: ACMI, 2003.

4 Page L One-to-one midwifery: restoring the "with woman" relationship in midwifery. *J Midwifery Women's Health* 2003; 48: 119-25.

5 Sandall J. Occupational burnout in midwives: new ways of working and the relationship between organisational factors and psychological health and wellbeing. *Risk, Decision & Policy* 1998; 3: 213-32.

6 McCourt C, Page L, Hewison J, Vail A. Evaluation of one-to-one midwifery: women's responses to care. *Birth* 1998; 25: 73-80.

7 Page L. One-to-one midwifery practice: a vision evaluated. *Prof Care Mother Child* 1995; 5: 146-7.

8 Page L. One-to-one midwifery: restoring the "with woman" relationship in midwifery. *J Midwifery Women's Health* 2003; 48: 119-25.

9 NSW Health. Framework for maternity services: providing structure and direction for the future development of maternity services. Sydney: NSW Health, 2000.

10 Homer CS, Davis GK, Brodie PM, et al. Collaboration in maternity care: a randomised controlled trial comparing community-based continuity of care with standard hospital care. *BJOG* 2001; 108: 16-22.

11 Kenny P, Brodie P, Eckermann S, Hall J. Westmead Hospital team midwifery project evaluation. Final report. Westmead: Centre for Health Economics Research and Evaluation, 1994.

12 Rowley MJ, Hensley MJ, Brinsmead MW, Wlodarczyk JH. Continuity of care by a midwife team versus routine care during pregnancy and birth: a randomised trial. *Med J Aust* 1995; 163: 289-93.

13 Homer CS, Matha DV, Jordan LG, et al. Community-based continuity of midwifery care versus standard hospital care: a cost analysis. *Aust Health Rev* 2001; 24: 85-93. Available at: <http://www.aushealthcare.com.au/publications/article_details.asp?aid=361> (accessed Jun 2005).

14 National Health and Medical Research Council (Australia). Review of services offered by midwives. Canberra: NHMRC, 1998.

15 NSW Health. NSW Midwifery Taskforce Final Report. Sydney: NSW Health, 1996.

16 Barclay L, Brodie P, Lane K, et al. The final report of the Australian Midwifery Action Project. Sydney: Centre for Family Health and Midwifery, University of Technology Sydney, 2003.

17 NSW Health. Models of maternity service provision across NSW: a discussion paper. Sydney: NSW Health, 2003.

18 Davies F. Who's left holding the baby? [Cover story] *NSW Doctor* 2004, October. Australian Medical Association NSW Branch.

19 Health Services at Ryde [cover story]. *Northern District Times* (Sydney) 2004, 1 September.

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