Introduction

Rural family physicians and midwives philosophically share much in common. Continuity of care, family-centered care and providing non-interventionist care of low risk pregnancies and deliveries are central tenets to both groups. Urban Canadian family physicians who have worked with midwives as a hospital-based team have found the experience very rewarding (Godley, 1994; Reid and Galbraith, 1988). Many of the obstetrical nurses in Canadian teaching hospitals were midwives in other countries before working in Canada and so we have personally benefited from their philosophies and expertise during our residency training. For these reasons we look forward to working with midwives as part of the rural health care team. In this document we would like to explore options and to raise questions as to how best to incorporate midwifery into rural health care.

This submission was requested by the CEO of the David Thompson Regional Health Authority, Mr. Martin. We prepared this paper by reviewing the medical literature, collecting data from our own practice in Sundre, and through discussions with other health care providers who provide obstetrical care. We will briefly summarise our current level of community obstetrical services before commenting on how midwifery services may complement services.
Our Current Practice

Six physicians in Sundre deliver complete prenatal and postnatal care. Five of them deliver low risk patients at Sundre Hospital and handle obstetric emergencies. In the majority of cases the physician providing prenatal care also attends the delivery unless he or she is out of town. The hospital has contracted the services of a nurse educator to provide prenatal classes in our community. Several of the physicians are also actively involved in teaching prenatal classes. The same nurse educator provides perinatal education to the hospital staff nurses and is consulted to see each of our first time mothers postnatally to promote successful breast feeding. The hospital is equipped with a very comfortable birthing suite, fetal heart monitor, and full resuscitation and laboratory facilities. The nursing staff receive regular obstetric inservicing. The local ambulance service is integrated with the hospital and is equipped to transport mother and infant, or to deliver a baby in the prehospital environment during an emergency.

We have a close working relationship with the general surgeon at Olds Hospital who stands by for emergency Cesarean section when we perform inductions, or if complications arise during labor. We also have a close working relationship with the high risk obstetricians at the Foothills Hospital for more complicated elective or emergency obstetric problems. We are familiar with preparing critically ill newborns for transfer in the STARS helicopter or the Foothills Hospital neonatal transfer unit.

In summary we are currently providing safe and comprehensive maternity care in our community.

The following table shows the number of deliveries in our community from 1989 to 1993. We estimate that we care for approximately 100 pregnant patients per year. Some of the pregnancies end in miscarriages, or the patients are transferred to the care of an obstetrician in Calgary or Red Deer, due to complications arising before delivery. We estimate that we care for approximately 50 to 60 patients in labor each year. All 274 patients were entered for the five years studied. The number of patients transferred during labor due to complications is likely underestimated as we only keep a delivery log for patients who actually deliver in Sundre.

Table 1. Physician-attended deliveries at Sundre Hospital during the five-year period 1989-1993.

<table>
<thead>
<tr>
<th>Total pregnancies managed in labour in Sundre Hospital</th>
<th>Number</th>
<th>Per cent</th>
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<tbody>
<tr>
<td>274</td>
<td></td>
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<tr>
<th>Total pregnancies delivered in Sundre Hospital</th>
<th>Number</th>
<th>Per cent</th>
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<tbody>
<tr>
<td>266</td>
<td></td>
<td>100%</td>
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<table>
<thead>
<tr>
<th>Low risk pregnancies delivered in Sundre</th>
<th>Number</th>
<th>Per cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>249</td>
<td></td>
<td>94% of all deliveries in Sundre</td>
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</table>
(prepartum risk score less than or equal to 2)

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<th></th>
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</thead>
<tbody>
<tr>
<td>High risk pregnancies delivered in Sundre (prepartum score 3 to 6)</td>
<td>17</td>
</tr>
<tr>
<td>Extreme high risk pregnancies delivered in Sundre (greater than or equal to 7)</td>
<td>0</td>
</tr>
<tr>
<td>Low risk pregnancies manages in labour in Sundre but transferred out in labour</td>
<td>6*</td>
</tr>
<tr>
<td>High risk pregnancies managed in labour in Sundre but transferred out in labour</td>
<td>2*</td>
</tr>
<tr>
<td>Low risk pregnancies (risk score less than or equal to 2) delivered in Sundre but moth and/or infant had a complication requiring physician intervention without transfer (eg. PPH, forceps, meconium requiring intubation, postpartum fever, jaundice, etc.)</td>
<td>48</td>
</tr>
</tbody>
</table>

1 - This table does not show women whose pregnancies were managed by Sundre physicians and pregnancies did not end in labour at Sundre Hospital.

* - We suspect that we missed counting some patients who were transferred out in labour owing to difficulties identifying these patients from our medical records database.

**Low Risk Outcomes in Sundre**

Although we selected only low risk pregnancies for delivery in Sundre, we continue to be surprised by the number of times when those deliveries are far from routine. Unexpected complications occur in labour or during the immediate postpartum period, in spite of our careful attempts to predict such events. Our data show that in 19% of the low risk deliveries in Sundre, some form of additional physician care was required by either the mother or the baby. These complications often require us to use advanced hospital investigations and treatments in Sundre. Sometimes we have to stabilize and transfer the patient to a higher level of care.

**Home Deliveries in Sundre**

We do not do elective home deliveries in this community because we believe that it is not safe. The incidence of unexpected complications during labour or soon after delivery is so high that we prefer to deliver in the hospital where we have nursing assistance and equipment readily available. The risk of complications is worrisome in a rural hospital where there is a long transfer time to a higher level of care and rescue time would simply be increased if deliveries were done in rural homes. To make the hospital experience as comfortable as possible for the patient and her friends and family, we
have an excellent birthing bed and a nicely furnished delivery suite and anteroom complete with television and private bath; essentially all the comforts of home.

If a midwife does home deliveries in Sundre, we can expect the midwife to use our hospital and our physician services for backup fairly often. Based on our review of the literature, we would anticipate that a midwife would transfer from the home to the hospital in a third of primiparous women, and a tenth of multiparous women. (Tyson, 1991, Feinbloom, 1986)

If home deliveries are being considered for rural areas then rural ambulance services would need to be equipped with transport incubators and health care providers would need to upgrade their skills for providing care for an ill neonate during transfer. Generally in hospital, we provide initial care to stabilize ill neonates while awaiting the specialized neonatal transfer team from the Foothills Hospital. This would not be an option for home deliveries.

As physicians we are somewhat confused by the apparent double standard that seems to be arising. The Ontario Medical Association Committee on Reproductive Care recently issued a position on planned home births that states "The OMA does not support physician attendance at births occurring in the home, but acknowledges that an Ontario licensed midwife may attend women who plan home births. This choice, however, does not obligate a physician to participate in this location, and this fact should be communicated to the patient." (Ontario Medical Review, May 1994) It is our understanding that the Alberta Medical Association Reproductive Care Committee is opposed to home deliveries by both midwives and physicians but the Midwifery Regulation Advisory Committee has yet to rule on this issue. The Alberta Health Care "Guidelines for Small Rural Hospitals" state that for obstetrical programs "There must be at least two physicians available who hold privileges on staff at the hospital, one must be present at time of delivery. A registered nurse must be available to attend the patient throughout the labor and delivery." We would assume a that similar backup would also be required of a practicing midwife.

**Patient Preferences**

Last year a senior medical student undertook a research project in Sundre in which she explored our patients preferences regarding their obstetric care (Thompson, unpublished). She found that the vast majority of our patients were very pleased with their obstetrical care in Sundre. 4 of 28 patients expressed a desire for midwife involvement in their care and 3 of these 4 wanted midwife care combined with physician care. Only one patient expressed an interest in a home delivery attended by a midwife. In a rural area in Ontario, 33% of women expressed interest in giving birth with the assistance of a midwife but less than 5% perceived the midwife as the primary care giver (Walker, 1993).

These results are quite different from published urban based data where in one study up to 60% indicated that they would like to use some aspect of midwifery care combined
with physician care (Stewart and Soderstrom, 1991). This discrepancy between our data and this urban study may be explained by the fact that only 50 percent of the patients' family physicians in the urban study provided obstetrical care and the other 50 percent were referred to obstetricians, resulting in loss of continuity of care.

The low expressed interest in midwifery services in Sundre may be due to general satisfaction with the current system or may be due to patient lack of knowledge of the services provided by midwives. The data on patient preferences in Sundre may not be generalizable to other rural centers in our area but we believe the DTRHA should look closely at patient preferences before deciding how best to incorporate midwife services in this region. It appears that patients do not currently view midwives as a replacement for their primary care physicians but rather as an additional resource with an expectation of combined care.

**Adding Midwifery to Obstetrics in Sundre: Conclusions**

Given all the foregoing information, it seems clear to us we should not add midwifery to Sundre's obstetric practice without careful planning. We think that the following considerations are critically important:

- Do rural patients want midwifery services?
- Are midwives more cost effective than family physicians?
- Is the volume of obstetric patients in the rural community sufficient to support another health care professional?
- How will the present physicians and hospital nurses maintain their obstetric skills if a significant proportion of deliveries are managed by midwives?
- How will patients be accommodated if they prefer to have their family physician provide their pre, intra, and postpartum obstetric care?
- How will our continuity of care with the patients in our family practice be maintained if we lose touch with our patients during the pregnancy, delivery and postpartum periods?
- How will Sundre Hospital be able to offer emergency care to patients who labour at home in the Sundre region and develop complications?
- How will midwives be integrated with the ambulance service and hospital in Sundre?
- How will midwives develop referral relationships with high risk and NICU services in the city?
- Will Sundre physicians be asked to act as consultants when patients of midwives develop complications and will this pose increased medicolegal risks?

Unfortunately we cannot offer answers to these questions as yet because we do not have information on the approved scope of practice of midwives, whether home deliveries will be approved, or how midwives will be funded.

We could briefly explore some potential roles of midwives in rural areas and discuss the pros and cons of each.
1. Midwives as Educators

If Alberta standards are similar to those of Ontario and B.C., then midwives will be trained with a four year University program, and therefore will be exceptionally well trained for providing education to patients, including prenatal classes, lactation consulting and postnatal issues and could be excellent resources for other rural health care providers.

2. Midwives as a Replacement for RNs

There have been studies showing that with a continuous nurse/midwife attendant in labor, intervention rates including C-sections can be reduced. The current recommended standard of hospital care for low risk obstetrical patients is one to one nursing with fetal heart rate assessment to be performed every 15 minutes in the first stage of labor and with every other contraction in the second stage of labor. Unfortunately this level of care often is not feasible with current levels of staffing and is a major cause of staff overtime costs. Midwives may be an excellent alternative. The difficulty of this option might be defining shared care with physicians that would be acceptable to both professions. The midwife/physician team has been the most commonly reported midwife role reported in the literature in Canada and is one we are most familiar with and therefore the one that we as physicians feel most comfortable with.

Midwives as a Replacement for Primary Care Physicians

In urban areas where up to 50% of family physicians in some provinces have chosen not to provide obstetricals services (Feinbloom, 1986) there is a very real need for alternative caregivers for low risk pregnancies. At present we do not have a shortage of primary care physicians willing to provide obstetrical services in our rural area.

As physicians who provide obstetrical care, we find this the least acceptable option, because we feel that there would be disruption of continuity of care with our patients during their pregnancies. We also choose to provide obstetrical care because we derive a great deal of professional satisfaction from this aspect of our work and feel it is important to share this major life event with the families in our care. We also fear erosion of our skills if we provide obstetric care to fewer patients. As well, we feel quite strongly that midwives cannot provide more cost effective care than physicians.

We are not sure how midwives would share patient loads in rural areas. It is our understanding that most midwives work in group practices in the city and that the average salaried midwife has a caseload of approximately 70 patients per year. We are not sure if a small rural community would provide enough work for midwives.

In summary, a great number of factors need to be considered to incorporate midwives into health care teams in rural areas. We would be pleased to work with midwives
collaboratively rather than competitively and definitely feel that more research is needed in this area.

References

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