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Rural Maternity Care

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Abstract

Objective: To provide an overview of current information on issues in maternity care relevant to rural populations.

Evidence: Medline was searched for articles published in English from 1995 to 2012 about rural maternity care. Relevant publications and position papers from appropriate organizations were also reviewed.

Outcomes: This information will help obstetrical care providers in rural areas to continue providing quality care for women in their communities.

Key Words: Maternity care, pregnancy, rural communities, remote communities

Recommendations

1. Women who reside in rural and remote communities in Canada should receive high-quality maternity care as close to home as possible.
2. The provision of rural maternity care must be collaborative, woman- and family-centred, culturally sensitive, and respectful.
3. Rural maternity care services should be supported through active policies aligned with these recommendations.
4. While local access to surgical and anaesthetic services is desirable, there is evidence that good outcomes can be sustained within an integrated perinatal care system without local access to operative delivery. There is evidence that the outcomes are better when women do not have to travel far from their communities. Access to an integrated perinatal care system should be provided for all women.
5. The social and emotional needs of rural women must be considered in service planning. Women who are required to leave their communities to give birth should be supported both financially and emotionally.
6. Innovative interprofessional models should be implemented as part of the solution for high-quality, collaborative, and integrated care for rural and remote women.
7. Registered nurses are essential to the provision of high-quality rural maternity care throughout pregnancy, birth, and the postpartum period. Maternity nursing skills should be recognized as a fundamental part of generalist rural nursing skills.
8. Remuneration for maternity care providers should reflect the unique challenges and increased professional responsibility faced by providers in rural settings. Remuneration models should facilitate interprofessional collaboration.
9. Practitioners skilled in neonatal resuscitation and newborn care are essential to rural maternity care.
10. Training of rural maternity health care providers should include collaborative practice as well as the necessary clinical skills and competencies. Sites must be developed and supported to train midwives, nurses, and physicians and provide them with the skills necessary for rural maternity care. Training in rural and northern settings must be supported.
11. Generalist skills in maternity care, surgery, and anaesthesia are valued and should be supported in training programs in family medicine, surgery, and anaesthesia as well as nursing and midwifery.

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12. All physicians and nurses should be exposed to maternity care in their training, and basic competencies should be met.
13. Quality improvement and outcome monitoring should be integral to all maternity care systems.
14. Support must be provided for ongoing, collaborative, interprofessional, and locally provided continuing education and patient safety programs.

INTRODUCTION AND BACKGROUND

Canadian women deserve quality maternity care regardless of whether they live in urban, rural, or remote communities. Individual health care providers must work to develop and maintain models of maternity care adapted to the communities in which women reside and to the resources available. Building on the 1998 Joint Position Statement on Rural Maternity Care,[1] this enhanced document includes new evidence. Acknowledging that interprofessional care of women through the continuum of prenatal, intrapartum, and postnatal periods is the norm, this paper represents the collaboration between not only physician organizations but also nursing and midwifery organizations. The authors of this paper and their respective organizations have agreed that rural maternity care must include agreement on the following overarching recommendations.

Recommendations

1. Women who reside in rural and remote communities in Canada should receive high-quality maternity care as close to home as possible.
2. The provision of rural maternity care must be collaborative, woman- and family- centred, culturally sensitive, and respectful.
3. Rural maternity care services should be supported through active policies aligned with these recommendations.

Defining "rural" in Canada remains challenging. Rurality indices attempt to capture the essence of rural with variables such as the distance between the site and advanced care, between the site and basic care, as well as the population number and density of the site.[2] This definition attempts to cover the variety of rural centres from those that are geographically isolated to centres that, while close to basic and advanced care, are in regions with low population density. Rural maternity care is often characterized by maternity care teams led by family physicians, nurses, and midwives. In some communities, they are the only ones providing maternity care, and in other cases backup is provided by general surgeons, GP-anaesthetists, obstetrician-gynaecologists, and/or family physicians with surgical training.

Recent years have seen the closure of rural maternity programs as part of regionalization of care and cost cutting.[3] In addition to administrative pressures, lack of skilled personnel in maternity care has resulted in service decreases and program closures.[4] Maternity programs are dependent not only on clinical personnel but also on support personnel, services such as diagnostic imaging, laboratory testing, and blood banks, appropriate and functional equipment, and effective transport systems across large distances in all types of weather.

DISCUSSION

Levels of Service

The safety of rural maternity services has been the subject of a number of studies over the past 20 years, and the weight of evidence supports the provision of local services even in communities without access to local surgical services.[5,6] Several recent studies have examined the importance of distance to services as it relates to outcomes and have shown that perinatal mortality, morbidity, and intervention rates increase the farther women live from birthing services.[7,8] While low-volume units face unique challenges, there is no evidence that a minimum number of deliveries is required to maintain competence.[9] The question is not whether to provide birthing services but what level of services is feasible and sustainable.

When a community is unable to sustain local services, almost all women will travel to access services elsewhere and, depending on the distance to the nearest referral centre, they may be away from their homes and communities from 36 weeks' gestation until they give birth. This separation can cause substantial stress for women and their families, and when socioeconomic vulnerability is a complicating factor, rates of adverse outcomes increase.[7,10]

Other rural communities are able to provide medically supported maternity services. If surgical services are unavailable, the proportion of women delivering locally is lower because of both risk-management decisions and patient choice. Factors that influence patient choice are not always those that motivate care providers.[11] Rural maternity care providers have identified many challenges including determining and accepting risk, obtaining and maintaining competencies in low-volume environments, and balancing women's needs against the realities of rural practice.[12] Evolving models of non-hospital-based maternity care will likely share similar challenges.

In communities with a surgical service the needs of women are more effectively met locally. In these communities, the

majority (> 75% depending on provider model) of women give birth locally and the outcomes are good.[7,13]

Models such as the Rural Birth Index have been developed to aid hospitals and health care planners to measure and quantify the need for and feasibility of local maternity services.[14] This model was developed and works well in British Columbia and identifies both catchment populations that are underserved and overserved.[14]

Recommendation

4. While local access to surgical and anaesthetic services is desirable, there is evidence that good outcomes can be sustained within an integrated perinatal care system without local access to operative delivery. There is evidence that the outcomes are better when women do not have to travel far from their communities. Access to an integrated perinatal care system should be provided for all women.

Impact of the Loss of Maternity Services

When rural maternity services are lost, women are required to travel to ensure adequate access to maternity care providers and services. These women, who may need to leave their communities for a month or more, report financial, social, and psychological consequences.[5] Financial costs almost always include accommodation and food in the referral community, often for a month or more in the period before and after the birth of the child.[5] Additional financial costs include loss of income and travel costs if the partner wishes to be present at the birth of the baby, arrangements for other children who may need to remain at home, and the cost of phone calls to distant support networks.[5] Studies in British Columbia have shown that women from some remote communities without maternity services spent an average of 29 days in the referral community at a cost of almost $4000 per person.[10,15]

Perhaps even more striking than the financial implications of having to travel to give birth are the social and psychological costs. Women report feelings of isolation, separation, and social disruption during what should be a joyful period in their lives.[5] They may be overwhelmed by the need to navigate resources unfamiliar to them, the pain of missing friends and family members who could not be with them in the referral community, and worries about how the newborn will integrate with other children left at home[5] or the community in general.[15] These social costs may be particularly acute for Aboriginal women because of their strong cultural ties to the land and their close-knit community values.[15–17]

Recommendation

5. The social and emotional needs of rural women must be considered in service planning. Women who are required to leave their communities to give birth should be supported both financially and emotionally.

Collaborative Care and the Rural Maternity Team

The long-term sustainability of a low-volume maternity unit depends on interprofessional respect, continuing education opportunities, and collaborative models of practice that include all providers.[18] Models based on multidisciplinary collaboration have been suggested as one solution to the declining number and changing nature of maternity care providers in Canada.[19] Key elements of successful collaborative maternity programs have been described by the Multidisciplinary Collaborative Primary Maternity Care Project.[20] All rural maternity teams are unique, but they may include nurses, nurse-practitioners, midwives, family physicians, and specialist physicians and they may be supported by health and social programs.

Registered nurses have been described as multi-specialists[18] when they practise in rural and remote settings. They care for women during labour and birth, which demands complex knowledge and skills and a high degree of responsibility.[21] If these skills are not used often, maintaining proficiency may be challenging,[22] and programs and continuing education are important to ensure competence. The skill sets of maternity nursing are no different from other multi-specialist roles but also include the task of safeguarding women giving birth.[23] In low-volume units, a nurse may be the only person in the hospital with a labouring woman who has the expertise to evaluate normal progression with physicians and other nurses on call.[24] This requires the nurse to have the confidence to make decisions about what is normal in labour and to call for backup as required.

Regulated midwifery has expanded greatly across Canada. Rural midwives face the same challenges of professional isolation, unsustainable workload, and difficulties in obtaining locum coverage that other practitioners face.[25] Issues of transport and surgical backup are amplified in home deliveries, an important component of many midwifery practices. Funding and health care system design solutions have been proposed,[25] and there is an increasing recognition of the need for collaboration between other provider groups and midwives.[26]

Greater awareness of the needs of Aboriginal women living in rural and remote areas, particularly the North, have brought a demand for low-risk maternity services,

often based on care by registered midwives, registered Aboriginal midwives, and traditional midwives. These programs have resulted in the return of birth to several Aboriginal communities across the country. Of great community importance, these programs have excellent medical and social outcomes.[27,28] These programs strive to help communities "retain and restore" what is important from their own birth traditions without losing the benefits of modern obstetrical practice.[27] Although in areas of extremely low population density it is unrealistic to believe that all women can deliver in their home communities, it is important that Aboriginal, rural, and remote women can access low-risk maternity care that reflects their experiences, expectations, and culture.[27,29] The importance of returning birth to the North and to Aboriginal communities has been acknowledged by several national organizations.[30,31]

In the past decade, many medical communities have responded to the declining number of care providers by creating collaborative practice models. The most common model is a group of family physicians working in a shared prenatal clinic with a defined period of on-call responsibility.[32–34] Both physicians and patients report a high level of satisfaction with these models,[11,32–34] and outcomes are good.[32,34] At least one community notes that group practice has led to the creation of a more supportive environment and the development of best practice protocols.[33]

Communities that are unable to support sustainable surgical or obstetrical specialist care but that are large enough to justify local surgical services can effectively be supported by GP-surgeons who provide only Caesarean sections or broader surgical services. The evidence suggests that they make a significant contribution to equitable access to care for rural populations, and their patients have outcomes comparable to those of specialist surgeons and obstetricians.[35–37] GP-surgeons face many challenges including accessing initial training, the lack of an accepted regulatory framework, and limited continuing professional development opportunities. Support from the dominant surgical specialist professions is varied, and GP-surgery has at times faced active resistance from the discipline of general surgery.[38]

While only a small percentage of Canadian specialists practice in rural and remote communities, many rural maternity programs are reliant on specialist obstetricians and/or general surgeons who are often practising solo or in very small groups. Rural specialists report a high level of satisfaction with the support they receive locally, but very few feel supported by national organizations such as the Royal College of Physicians and Surgeons of Canada or the Canadian Medical Association.[39] Respondents to a survey expressed an overwhelming desire for relevant and accessible ongoing professional development and noted a lack of training opportunities.[39] Rural maternity care teams need to be supported by consulting urban specialists who are responsive and respectful, and who understand the rural reality.

Obstetrical anaesthesia services, delivered largely by GP-anaesthetists, form a key component of rural maternity systems and include not only epidurals administered during labour and anaesthesia at Caesarean section but also support for neonatal resuscitation. Provision of a full-time elective epidural service is difficult for practitioners who wear many hats and work solo or in small groups.[40] Greater training and continuing professional development opportunities, as well as novel funding mechanisms, have been proposed as part of the solution.[41]

Health and social supports from early pregnancy through the postpartum and newborn periods are essential to the provision of quality care.[42,43] Doula care has been shown to improve maternal and newborn outcomes.[44] Innovative models of community-based doula training have shown success, and engaging the human resources of rural communities has deep roots in Canada. It is essential that all rural women have access to supports such as prenatal educational, postpartum care, and lactation support even when local intrapartum services are not offered.

While differences in scope and remuneration models create barriers to true collaboration between different care provider groups, many communities have found ways to overcome them. Group practice models often include enhanced roles for nurses and nurse-practitioners,[32,33] thus reducing demands on family physicians who are also providing primary care, emergency room coverage, and/or hospital care. The integration of midwifery care in rural communities provides new opportunities and new challenges.[25] Remuneration models that recognize the level of responsibility and challenges faced by the rural accoucheur should be considered. It is also important to remove financial disincentives and regulatory barriers to shared care between the medical and midwifery professions such that collaborative practice can be encouraged.

Recommendations

6. Innovative interprofessional models should be implemented as part of the solution for high-quality, collaborative, and integrated care for rural and remote women.

7. Registered nurses are essential to the provision of high-quality rural maternity care throughout pregnancy, birth, and the postpartum period. Maternity nursing skills should be recognized as a fundamental part of generalist rural nursing skills.
8. Remuneration for maternity care providers should reflect the unique challenges and increased professional responsibility faced by providers in rural settings. Remuneration models should facilitate interprofessional collaboration.

Newborn Care

Newborn care is an important part of any maternity care system. Approximately 10% of newborns will require resuscitation, and 1% will require extensive resuscitation, with at least one half of these cases being unexpected.[45] Canadian guidelines recommend that "all health care facilities providing care for newborn infants must be able to resuscitate and stabilize such infants until transfer to another appropriate facility" and that such care should be multidisciplinary and provided by trained staff with access to ongoing education and training.[46] In rural and remote settings, however, specialized pediatric and neonatal staff are rare. There is limited evidence regarding providers and outcomes of neonatal resuscitation in rural Canada, but some research suggests that levels of training and skill levels are lower than in larger centres.[47,48] This gap, along with lower birth volumes and less access to specialized practitioners (e.g., respiratory therapy), highlights the increased need for local access to quality training and quality assurance programs in rural communities.

Recommendation

9. Practitioners skilled in neonatal resuscitation and newborn care are essential to rural maternity care.

Training for Rural Maternity Care

A decision to practise in a rural region has been linked to a number of factors, including being from a rural area and having the opportunity to train in a rural area.[49,50] Practitioners are most comfortable in environments that are similar to those in which they have trained. Early exposure to both rural environments and maternity care plays a key role in decision making about practice scope and location.[51] Many programs struggle to provide these experiences, but without them the strong base of generalism that rural health care is built on will be lost. The last decade has seen the opening of numerous new rural and northern training sites that bring increased opportunities to learn maternity care in a rural environment. Rural training sites face unique challenges, including increased cost[52]; funding that accommodates these additional costs must be available to all professional programs.

All learners should have appropriate competencies for rural maternity care such as interprofessional work, collaborative practice and a commitment to ongoing learning. Management of uncomplicated vaginal birth must remain a key competency for nursing, midwifery, and family physician training. In some jurisdictions outside Canada, this has been designated an added or optional skill for family medicine residents.[53] To date, the Canadian family medicine residency curriculum has resisted similar streaming, instead insisting that all residents should be competent in normal vaginal deliveries.[54]

Access to additional training in advanced skills, including Caesarean section and obstetrical anaesthesia, is essential. Rural track maternity programs and fellowships in maternity care have been shown to increase the number of new physician graduates offering maternity care.[55,56] Currently training in performing Caesarean section is provided for family physicians at several residency sites in Canada. Training in broader general surgical skills is more difficult to access. Those wishing to train as GP-anaesthetists have access at many sites to third year programs accredited by the College of Family Physicians of Canada; the standards for these programs are set by the Canadian Anesthesiologists' Society and the Society of Rural Physicians of Canada. Enhanced skills training for family physicians remains critical for rural maternity care.

Recommendations

10. Training of rural maternity health care providers should include collaborative practice as well as the necessary clinical skills and competencies. Sites must be developed and supported to train midwives, nurses, and physicians and provide them with the skills necessary for rural maternity care. Training in rural and northern settings must be supported.
11. Generalist skills in maternity care, surgery, and anaesthesia are valued and should be supported in training programs in family medicine, surgery, and anaesthesia as well as nursing and midwifery.
12. All physicians and nurses should be exposed to maternity care in their training, and basic competencies should be met.

Patient Safety and Continuing Professional Education

Comprehensive patient safety programs should be an integral part of rural maternity care. The characteristics of these safety programs have been well described: they should be comprehensive, patient focused, and applied within a culture of safety.[57,58] They should identify system

failures, analyze the factors that contribute to the failures, and redesign the care process to prevent errors in the future.[57] A key component is the review of events based on "a culture of openness to all relevant perspectives in which those involved in adverse events are treated as partners in learning"[59]; these reviews should be carried out with an understanding of the rural environment.

To promote consistent and evidenced-based practice, continuing professional development programs must be available for rural caregivers. Although historically these programs have been delivered off-site and to each discipline separately, newer models involve locally delivered collaborative learning. Rural communities are ideally suited to this improved model because the health care professional teams are small, and strong collaboration is essential. Education that supports all members of the team to provide high-quality rural maternity care is optimal so that the whole team has the same knowledge base. Locally delivered continuing professional development contributes to the culture of safety while building collaborative teams and ensuring that the content is relevant to the rural reality.

One example of a collaborative and locally provided patient safety program is Managing Obstetrical Risk Efficiently (MORE^{OB}).[60] This interdisciplinary program builds a culture of safety through the development of knowledge, skills, attitudes, behaviours, and practices that make patient safety the priority for all caregivers. It promotes quality obstetrical care and quality of life for caregivers, integrating high reliability organization principles and using a foundation of current, evidence-based core clinical content. It adapts to local circumstances and all levels of care and caregivers, both urban and rural. Teamwork, respect, and communication are improved by the team reviewing the core clinical content and sharing knowledge through audit, case review, emergency drills, and other activities. Ultimately, a culture of patient safety is established. Research shows that maternal and newborn outcomes as well as health care use improved at hospitals adopting the 3-year program.[61] Rural centres (including sites with as few as 10 deliveries per year) that have adopted the program have demonstrated improvement in knowledge, communication, teamwork, and patient safety.

Recommendations

13. Quality improvement and outcome monitoring should be integral to all maternity care services.
14. Support must be provided for ongoing, collaborative, interprofessional, and locally provided continuing education and patient safety programs.

CONCLUSIONS

Rural maternity care services are under stress, and many rural and remote communities across Canada have seen local maternity services diminish and close. Rural women and families who have to travel to access maternity care experience increased levels of stress, increased personal costs, and increased rates of adverse outcomes. Current health care policy does not adequately support rural nurses, doctors, and midwives to meet the needs of rural women, and new approaches are needed to support collaborative, integrated, and safe care for mothers and newborns in rural Canada.

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