



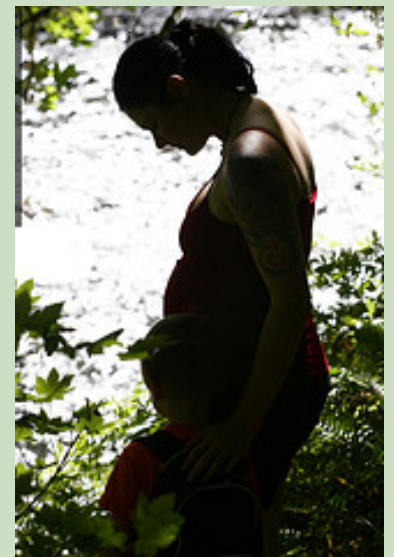
Maternity Care in Bella Coola

Barriers and Solutions to Local Sustainability

Centre for Rural Health Research



October 2008



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THE CENTRE FOR RURAL HEALTH RESEARCH

About Us

The Centre for Rural Health Research (CRHR) was formed in 2005 in response to the need for evidence to develop policies and inform decision making in the area of rural health. This mandate is based on an understanding of the known health inequities between rural and urban residents arising in part from the difference between their respective health needs and service delivery context.^{i-v} Under the direction of Drs Stefan Grzybowski (a rural family physician) and Jude Kornelsen (a medical sociologist who specializes in maternity care), the CRHR is supported by both the Vancouver Coastal Health Research Institute and the Department of Family Practice at the University of British Columbia. All projects are grant-funded through the Canadian Institutes of Health Research (CIHR), the Michael Smith Foundation for Health Research (MSFHR), or British Columbia Medical Services Foundation (part of the Vancouver Foundation). To date the program of research has focused primarily on rural maternity care (supported infrastructurally by the Vancouver Coastal Health Research Institute and a New Emerging Team Grant from CIHR). As we recognize the multi-faceted context that has led to challenges in the provision of care to rural parturient women, all research is undertaken from a multi-disciplinary perspective employing quantitative or qualitative methods as appropriate. The current research on sustainable maternity care in rural environments, funded through CIHR, is one of the current projects being undertaken by the centre. Please see www.ruralmatresearch.net for a complete list of projects and recent publications.

ⁱ Ministerial Advisory Council on Rural Health. (2002). *Rural health in rural hands: Strategic directions for rural, remote, northern and Aboriginal communities*. Ottawa, Ontario: Ministerial Advisory Council on Rural Health, Health Canada.

ⁱⁱ Romanow, R.J. (2002). *Building on values: The future of health care in Canada*. Final Report of the Commission on the Future of Health Care in Canada. Ottawa: National Library of Canada.

ⁱⁱⁱ Iglesias, S. et al. (1998). Rural obstetrics: joint position paper on rural maternity care. *Canadian Journal of Rural Medicine*, 3(2): 75-85.

^{iv} Benoit, C., D. Carrol and A. Millar. (2002). But is it good for non-urban women's health? Regionalizing maternity care services in British Columbia. *The Canadian Review of Sociology and Anthropology*, 39(94): 373-395.

^v BC Ministry of Health. (2005). <http://www.healthservices.gov.bc.ca/rural/> Retrieved April 6, 2005

PREFACE

Moratoria and closures – or the threat of closure – of rural services have become increasingly common not only in British Columbia, but in all jurisdictions across Canada. The constellations of events leading to the closures are as diverse as the communities themselves, although they tend to be related to health human resource challenges involving nurses, general practitioner surgeons, family physicians, and specialists; lack of access to specialized services (for example, limited access to epidural anaesthesia, labour augmentation, or cesarean section back-up); and a trend towards centralization across the spectrum of health services delivery in Canada.

Understanding the genesis of the problem, however, does not change the experience of rural women who must leave their communities to give birth, sometimes for as long as four weeks before their due date. Leaving behind other children and community supports at a vulnerable time can be particularly poignant when generational ties to the land and local tradition are strong. It is from this perspective that it is important to consider reasons for closures as necessary first steps in the search for solutions to providing sustainable care. With this as the starting place, the need for an inclusive approach to the problem is clear; it is community members – namely care providers and the extended web of birthing families – who are experts in the problem and community-relevant solutions are generated out of this expertise.

This research was undertaken when local maternity services, with intermittent surgical back-up, were still available in Bella Coola. Since then there has been a moratorium on local services due to a turnover in practitioners – a frequent occurrence in rural communities and one that ought not influence the overall stability of services. Recent events make the search for solutions more acute. Planners and community members in Bella Coola are now faced with creating a balance between the realities of health service delivery in British Columbia within a context of not only fiscal constraint but significant shortages of care providers willing and confident to work in a remote, isolated rural setting against the backdrop of community stories of loss and the clear desire for local care.

There are no maternity service delivery models from other communities that apply directly to Bella Coola: like many rural settings, the unique history, geography, and people require a tailored solution. Although perhaps daunting, this opportunity also opens the door to innovative,

models of care that are different from what we have seen. They may involve a new mix of practitioners or a new mode of delivering care – for example having teams of providers come to the community on a rotating basis or expanding the catchment of the Bella Coola Hospital through outreach pre- and post-natal clinics. It is hoped that findings from the community interviews and forums presented in this report can be used as a tool for local planning and are thus respectfully presented.

Jude Kornelsen and Stefan Grzybowski on behalf of the Centre for Rural Health Research

EXECUTIVE SUMMARY

This report, *Maternity Care in Bella Coola: Barriers and Solutions to Local Sustainability*, documents findings from a project undertaken to develop evidence for supporting sustainable rural maternity care in British Columbia. Despite a long and successful history of providing care, there is currently a moratorium on services in the community due to a constellation of factors including challenges in recruiting and retaining providers. The results of the project communicate the maternity care values, attitudes, and beliefs of the care providers and community members of Bella Coola, their ideas for making local maternity care more sustainable, and potential models of local care.

Framing the Issue: Rural Maternity Care

- Rural maternity service closures are due in part to care providers' workplace stress, burn-out, and retirement.
- Closing local services and evacuating women for care can lead to negative maternal and newborn health outcomes, as well as social and financial stress. Aboriginal families may feel these effects more acutely than non-Aboriginal families.
- The sustainability of local cesarean section services, provided by GP Surgeons, has a direct impact on the sustainability of local maternity care.
- We are currently facing challenges in recruiting and retaining GP Surgeons due to the lack of local training, accreditation, and professional support.
- Where local cesarean section coverage is not an option, sustaining services is a challenge. However, a number of communities in rural BC have successfully and safely provided intrapartum care with no local cesarean section back-up for many years (ex. Queen Charlotte City, Saltspring Island).
- Midwifery care is an option for many rural BC communities.

Methods: Research Project Description

- We undertook a community-based, participatory research process involving multiple key stakeholders.
- The goal was to determine the health service delivery conditions necessary to support sustainable rural maternity care in three rural BC communities: Bella Coola, Queen Charlotte City/Skidegate, and Masset/Old Masset.
- We conducted interviews with key stakeholders in each community, then returned with our findings to discuss them through two focus groups and a community meeting in each community.
- This document reviews our research findings from Bella Coola and continues our goal of working towards solutions for maternity care in the community

Background: Maternity Care in Bella Coola

- Bella Coola has a one-hour catchment population of 2,307, of which approximately half of the population is of Aboriginal descent.

- The community has historically always had local birth, more recently with the support of cesarean section back-up through the support of the United Church Health Services.
- At the time of the study, approximately half of birthing women delivered their babies in Bella Coola, with the other half traveling for care.

Results: What We Learned from Participants

- Care providers' responses communicated the following values, attitudes, and beliefs:
 1. There is a high level of service provided by the hospital based on its catchment size;
 2. This level of service must be put in context and compared to other BC communities of a similar population;
 3. There is a low community tolerance for risk; and
 4. Birth is normal only in retrospect.
- Community leaders' and allied health professionals' responses communicated the following values, attitudes, and beliefs:
 1. The importance of birth to the Nuxalk peoples;
 2. The necessity of cesarean sections for local birth;
 3. Perceived differences in care received by Nuxalk and non-Nuxalk women; and
 4. The need for a community-based process to determine level of local services.
- Participants expressed a desire for *local birth* and suggested the following strategies to assist local, sustainable care:
 - strengthening the physician infrastructure;
 - considering new models of local care;
 - maintaining the OR;
 - ensuring nursing sustainability;
 - engaging in local policy and planning;
 - developing strategies for sustainable services; and
 - ensuring there is community support for local birth.
- A number of factors will influence the community's decision for how to proceed with local maternity services:
 - the local history of operative birth, supported by United Church Health Services;
 - geography and isolation;
 - recent population decrease;
 - the rise in teen pregnancies;
 - the number of hospital service reviews without notable changes; and
 - funding limitations.
- Several community-specific themes emerged from interviews and focus groups including:
 - the cultural importance of birth;
 - the necessity of cesarean section services;
 - the need for respect and equity for Nuxalk peoples;
 - the need for concrete results from local policy and planning; and
 - the need to help women who give birth away.

Potential Models of Care

From the participant interviews and focus groups, the following potential models of care emerged from the findings:

- A. Physician-based service with local access to cesarean section
- B. Integrated physician and midwifery-based service with local access to cesarean section
- C. Physician-based service with no local access to cesarean section
- D. Midwifery services with no local access to cesarean section
- E. No local intrapartum services

Recommendations

The issues facing Bella Coola are similar to those being felt by rural communities across the province. We have an emerging understanding of the reasons for these challenges and their effect on communities. Based on this evidence and results from our study, the Centre has developed a set of recommendations for the Bella Coola community to assist with local maternity care decision making.

A. Inclusive, Community-Based Decision-Making Process

The mode of providing care to parturient women in the Bella Coola Valley must be determined honoring an inclusive, community-based process, which at minimum involves:

1. Band Council Health Committee Chair or designate;
2. Health Centre Director or designate;
3. Designate from the Bella Coola General Hospital medical staff;
4. Community (inclusive of teenagers, birthing women, and elders with attention given to fathers and other men within the community);
5. Bella Coola General Hospital Chief of Nursing;
6. United Church Health Services; and
7. Other key community groups identified by community leaders (e.g. Interagency Committee).

Key components of the decision making process should include:

1. A recognition and honoring of the multiple viewpoints and realities that influence service level expectation and feasibility including the volume of births, population projections, the unique needs of the Nuxalk community, socio-economic indications, and the historical precedent that has been set while also recognizing the unique influence and commitment of the United Church Health Services.
2. Providing a context for the discussions through:
 - (a) An overview of services available in other rural communities across British Columbia with comparable populations, levels of isolation, and socio-cultural characteristics; and
 - (b) An overview of the current health human resource realities of GP Surgery and Midwifery training and practice in British Columbia, including the current number of providers, projections for additional providers, and the current regulatory and legislative challenges that affect practice.
3. A review of the birthing outcomes since the closure of services for women from the Bella Coola Valley regardless of place of delivery.

4. A focus on how to undertake a rigorous, meaningful, and culturally-appropriate process of informed choice and informed consent for whatever birth system is put in place.

It is recommended that this process be facilitated by an external, professional facilitator with a history of working productively with First Nations peoples.

B. Alternative Models to Support Midwifery Practice

If a result of the collaborative decision-making process involves the desire to integrate midwives into Bella Coola's health care delivery environment, midwifery will need to be incorporated into the community in a way that responds to the demographic and cultural characteristics unique to Bella Coola. This will involve:

1. An alternative funding model (Special Service Contract) as the volume of births is not high enough to allow for financial sustainability through a fee-for-service model, and
2. Incorporating additional activities into the midwife's roles and responsibilities, which should be negotiated in conjunction with the individual practitioner(s) recruited and who are currently providing care in the community. The activities may include:
 - a. Sexual and Health Education in the community (including schools);
 - b. Prenatal education classes in a format that incorporates cultural values and practices;
 - c. Outreach to other Central Coast communities for prenatal, post-partum, and well-woman care;
 - d. First surgical assist at caesarean sections;*
 - e. Providing well-baby care after three months postpartum and to healthy newborns in general;*
 - f. Providing well-woman care after three months postpartum and to healthy women in general, including prescribing contraceptives.*

C. Establish and provide resources for Perinatal Health Council

A perinatal health council with representation from Bella Coola General Hospital medical and nursing staff, the Band Council Health Committee, Health Centre, community, United Church Health Services, and other key community groups identified by community leaders should be established with the mandate of supporting the care of parturient women from an evidence-based perspective and monitoring outcomes within the context of recognizing existing commitments and the burden of participation of many community members.

D. Ongoing Evaluation of Outcomes

The mode of providing care to parturient women in the Bella Coola Valley should be subject to clear methods for evaluation for the purposes of on-going quality improvement in accordance with regulatory, regional, and provincial standards. Evaluation criteria should be mutually determined by all key stakeholders but at a minimum should include relevant maternal and newborn health indicators as well as population and care provider satisfaction.

*Recently approved by the Health Professions Council for inclusion within Midwives' scope of practice.

1. FRAMING THE ISSUE

a. Rural Maternity Care in British Columbia

There has been a significant decline in the number of rural hospitals offering maternity care in BC since 2000, mirroring trends of closures and service reductions that are occurring across Canada¹ and internationally.³ In Nova Scotia between 1970 and 2002, 31 of 42 hospitals ceased to provide maternity services.⁴ In Ontario, 11 small hospitals that provided obstetric care in 1988 closed their services by 1995.⁶ In British Columbia alone, 20 communities[†] have closed local services since 2000 (see Figure 1).⁸

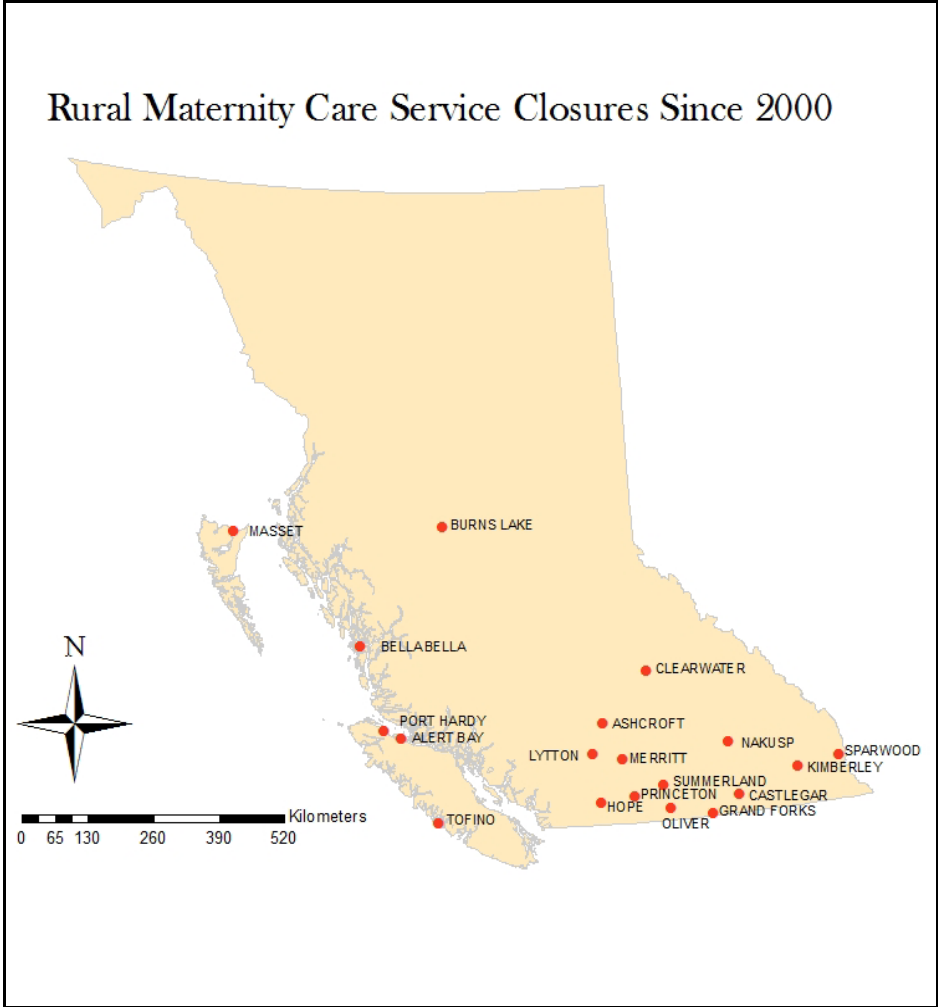


Figure 1

[†] Closures since 2000 include the communities of Alert Bay, Ashcroft, Bella Bella, Burns Lake, Castlegar, Clearwater, Grand Forks, Hope, Kimberley, Lytton, Massey, Merritt, Nakusp, Oliver, Port Hardy, Princeton, Sparwood, Summerland, and Tofino.

A convergence of factors has led to the lack of access of maternity services including structural-economic changes in rural communities,^{12 13 14} health care restructuring,¹⁵ a changing context of care that supervaluates access to technology and specialists,¹⁶ and health human resource issues. The latter provide the most significant challenges, which include providing surgical care in low-resource environments, shortages in obstetrically-trained nurses,¹⁷ and the growing attrition of family physicians from rural practice. This attrition has been well-documented and is attributed to general workplace stress among rural physicians,^{18 19 20 21 22 23 24 25 26} demanding call schedules,²⁷ and, in British Columbia, the lack of remuneration for on-call obstetrics as many physicians take up the opportunity to participate in remunerated competing call groups such as Emergency, Pediatrics, or Psychiatry.



Rural service closures give rise to inequities in access to care for rural parturient women, and lead to place of residence becoming a determinant of maternal and newborn health.^{28 29 30} A review of the existing literature indicates that negative health consequences for the maternal-newborn population can occur as a result of these changing patterns of access to services, as has been found in rural Florida and Washington

State.^{31 32 33} Closures of small-volume maternity units contradicts evidence from several large population-based studies from countries such as New Zealand, Finland, and Norway, which have shown that small hospitals can provide safe maternity service.^{34 35 36} Low risk pregnancies may in fact have fewer risk factors in a minimal-technology environment such as a small rural facility: “delivery with no known risk factors may actually be put at risk by the increased medical attention of technologically advanced maternity units, and low risk deliveries may benefit from the minimal intervention approach in small maternity units.”³⁷

While concern for safe birth outcomes is often cited as a reason for closing services, there is evidence that when adequately supported, small rural maternity services can safely serve rural parturient women,^{38 39 40} including in the absence of local caesarean section capability,^{41 42 43} suggesting that within a regionalized perinatal system, small maternity services can be as safe as

tertiary obstetrical units provided an efficient mechanism for intrapartum transfer has been established.^{44 45}

In addition, research shows that evacuating women to give birth causes psychosocial stress to women, families, and communities, thus accentuating their vulnerability.^{46 47 48 49 50 51} We have an emerging understanding of the psychosocial consequences for pregnant women from communities without local services, many of whom experience labour and delivery in referral communities as a crisis event fraught with anxiety, because they cannot plan for birth with any certainty.^{52 53 54} Not surprisingly, these social consequences have the greatest effect on women with limited social and economic resources. Studies have also demonstrated a number of adverse effects associated with travel for rural parturient women, which include increased intervention rates; stress; financial loss;⁵⁵ separation from spouse, children and community; and lack of continuity of care.^{56 57 58 59 60}

For mothers with other children or dependent parents at home, leaving them behind can be emotionally stressful and it can be expensive to arrange care for them. To avoid these stresses, women may stay in their communities and wait until labour begins before traveling to the referral community, risking having their baby en route or at their unequipped local hospital. Limited numbers of rural women choose not to travel at all and have unassisted home births with lay attendants instead.⁶¹ Another technique that mothers and care providers use to avoid long stays away from home is geographic induction (elective induction of labour chosen to reduce a pregnant woman's time away from home when she is in a referral community). Approximately 4% of all inductions in rural BC are geographic inductions.⁶² Many mothers have no choice but to undergo a geographic induction so that they can avoid a prolonged stay away from their families. Alternatively, in the case of intermittent services in their local communities, some women choose to be induced prior to the services being temporarily unavailable if it is close to their due date and physiological conditions are favorable.



Although emerging evidence clearly suggests the importance of maintaining local services (where warranted by population need), there are no clearly articulated policies aimed at strengthening

the infrastructure for care on a provincial level.⁶³ This has led to challenges for regional health planners and a local response to meeting the needs of rural parturient women.

Although the nuances of the situation are unique to rural environments, the challenges facing the provision of maternity care extend to urban settings as well where planners must also contend with the attrition of providers and the lack of obstetrically trained nurses.⁶⁴ ⁶⁵ This has forced consideration of new models of care and renewed interest in evidence regarding outcomes in situations without local access to cesarean section capacity.

b. Aboriginal Maternity Care

Although all rural women experience the impact of reductions in local maternity services, qualitative evidence suggests that it is more acutely felt in Aboriginal communities. This is due in part to the historical place of birth in Aboriginal life where it was a community event that strengthened ties within families and nations.⁶⁶ In Canada's far north we have seen the systematic evacuation of women from their communities due to shifting policy and practice including immigration restrictions on foreign-trained nurse-midwives who traditionally staffed remote outposts.⁶⁷ The consequences have been severe, leading away from birth as a community event to birth as an isolating experience resulting in feelings of loss of control for women.⁶⁸ ⁶⁹ There are also implications for the community. In describing the Pauktutit (Inuit Women's Association) perspective, Martha Greig notes that the loss of self-sufficiency and competency is felt by older women as well, for those who acted as midwives in the past believe their own knowledge has been discredited, wasted, and ignored.⁷⁰



When talking of their evacuation experience, northern Aboriginal women themselves express regret at not having family close by to share their birthing experience and note the difficulty for women to focus on giving birth to a newborn when they are anxious about being away from their homes and children for extended periods

of time.⁷¹ In a comprehensive overview of the unintended consequences of maternal evacuation from the far north, Jennifer Stonier lists the detrimental health effects on women (e.g., loneliness,

worry, anxiety, loss of appetite, increased smoking behaviour) and those on the children and family left behind (increased rates of illness and school problems for other children of evacuated women and the loss of understanding of the birth process among men).⁷² Stonier also describes that with so much energy, time, and money devoted to the immediate intrapartum period, fewer resources were available for care and education services within the community, contributing to the diminishment of prenatal preparation and postnatal support.

Studies in Australia and New Zealand indicate that there are significant disparities between Aboriginal and non-Aboriginal perinatal health outcomes, with Aboriginal women experiencing higher rates of preterm birth (less than 37 weeks gestation), an increased risk of having small for gestational age babies (birth weight < 2500g), and a decreased likelihood of breastfeeding.^{73 74} Studies in North



America have found similar negative outcomes,^{75 76 77 78} in addition to finding that rural Aboriginal women are more likely to receive inadequate prenatal care compared to their urban and non-Aboriginal counterparts.^{79 80} In Canada, Aboriginal women have rates of infant mortality and stillbirth double that of the national average.⁸¹ Perinatal health statistics for people living in the Central Coast of British Columbia, a predominantly Aboriginal region, are dismal. From 1996-2000 the infant mortality rate in the Central Coast was 23.3/1000 while the provincial average was 4.2/1000, and the preterm birth rate was 178.3/1000 compared to the provincial average of 61.6/1000.⁸²

National efforts for improving rural perinatal outcomes for Aboriginal peoples in Canada emphasize the importance of keeping maternity services close to home, with community members playing a significant decision making role in the service planning process.^{83 84} Successful examples of rural Aboriginal maternity care include birthing centres in the Canadian north. The Inuit birth centre in Puvurnituq, Nunavik is staffed by Aboriginal midwives and attempts to maintain Inuit mothers' connection to the land and community by keeping birth close to home and integrated with Inuit culture.⁸⁵ The Inukjuak Maternity program in Nunavik provides local care that has led to a significant increase in the number of local births, low preterm birth rates, and low intervention rates for women who do leave the community to give birth.⁸⁶ Such birthing projects in Arctic

communities produce many psychosocial benefits including decreased family disruption, greater parent satisfaction, and greater community involvement with the newborn baby.⁸⁷

Listening to Aboriginal women's birthing desires provides the foundational knowledge for building their maternity care programs, authenticates their knowledge, and ensures that programs are culturally appropriate.^{88 89 90 91} First Nations and Inuit Health and the National Aboriginal Health Organization advocate for approaches to service development that are grounded in Aboriginal culture, that build on community strengths, and that require care providers to be sensitive to Aboriginal sociocultural needs.⁹² The importance of community involvement in Aboriginal maternity care planning has been echoed at the Central Coast level by Glen Timbers and participants of the Coastal Community Health Summit held in January 2006.⁹³

c. GP Surgery Care in British Columbia

Recent studies in British Columbia and Alberta,^{94 95} have found that maternity services without local cesarean section capability are particularly vulnerable to closure. The challenge in rural communities is how to provide surgical services in the face of low volume and the absence of specialist care. An emerging solution, primarily in Western Canada, has been to rely on non-certified surgeons who have trained outside of Canada and



Canadian general practice graduates with enhanced training and skills for surgical maternity services. In BC, GP surgeons currently provide care in 19 rural communities (Humber N, Frecker T, Dept. of Family Practice, UBC: unpublished data, 2005), and in Alberta in 2002, cesarean section services were provided by non-certified surgeons in 46 rural communities for 20% of all births.⁹⁶

Cesarean section capability has been shown to underpin the sustainability of maternity services and is one of the key factors considered in deliberations over the maintenance or discontinuance of local rural maternity care services.⁹⁷ A study comparing birth outcomes from two small rural communities in BC with similar populations showed, not surprisingly, that the community with cesarean section capability, even though intermittent, supported a higher percentage of local deliveries than the community without cesarean section capability. In 1986, the communities with

and without cesarean section capability were able to respectively help 78% and 55% of local women to give birth; in 2000 these proportions had fallen to 61% and 35%⁹⁸. Indeed, the service that was only doing 35% of local deliveries in 2000 closed their maternity service entirely that same year. A larger pilot study that stratified rural BC hospital services demonstrated that when GP surgeons provided local cesarean section services continuously, 85% of local women gave birth in their home communities. This compared favourably to larger rural communities served by obstetricians and/or general surgeons providing cesarean section support in which 91% of women were able to give birth in their local community (Grzybowski S, et al, Dept. of Family Practice, UBC: unpublished data, 2001). Smaller communities served by maternity services without local access to cesarean section delivered less than 30% of the parturient population locally (Grzybowski S, et al, Dept. of Family Practice, UBC: unpublished data, 2001).



Based on existing evidence, it appears that the role of GP surgeons in supporting sustainable maternity services in rural communities is pivotal.^{99 100} Evidence on the safety of maternity services in the absence of surgical back-up is scant, and emerging data from pilot projects of isolated services in Canada's northern regions suggest excellent outcomes in midwifery-led non-surgical services.¹⁰¹ However, the sustainability of most non-surgical physician-led services is in question from a health human resource perspective. This is due primarily to stress on physicians of the possibility of a bad outcome.¹⁰²

In a recent study on rural care providers' experiences of maternity care in BC¹⁰³ rural physicians in Level I communities without surgical back-up expressed consensus around the tenuousness of their practice. They acknowledged that not only were they not sustainable but also that the possibility of replacing them with someone willing to provide maternity care was small. In Level 0 communities (no maternity care), physicians reported stopping (or never engaging in) maternity care due to their discomfort in practicing without surgical back-up and concerns that in the event of a bad outcome the decision to have provided services would be called into question from a legal perspective. In addition to the current medicolegal context, the current 22.1% rate¹⁰⁴ for operative deliveries Canada-wide leads many to feel that surgical capability is a core requirement for maternity services. If this is the case, such care in smaller rural communities without the population base to support specialist care will be in jeopardy if we do not look to alternative models.

d. Midwifery

Midwifery in Canada

Midwifery is regulated in seven provinces and one territory in Canada and publicly funded in each of these regions except Alberta. In British Columbia, midwifery has been a regulated, publicly-funded profession since 1998.

Model of Care

In BC, a midwife works as an autonomous primary caregiver delivering maternity care service to an average of 40 women per year for full-time work. This care begins early in pregnancy and continues through labour, delivery, and the first 6 weeks postpartum. Midwives are legislated in BC under the Health Professions Act and are regulated by the College of Midwives of BC (CMBC).¹⁰⁵ Midwifery services are funded through the BC Medical Services Plan.

There is more a midwife could do than just the birthing per se; there's a lot of pre-birth and post birth things that the midwifery could be involved in directly.
[002:640-48]

The key principles that inform the model of midwifery care include:

- Continuity of care;
- Informed client choice (including choice of birth setting), which recognizes that decision-making is shared between a woman, her family, and midwife, with the woman as the primary decision-maker and the midwife primarily providing complete, relevant, and objective information needed to make a decision;¹⁰⁶
- Collaboration with other health care professionals;
- Accountability (to women in their care, other health care professionals, their regulatory body, their local health authority, and the general public); and
- Evidence-based practice.¹⁰⁷



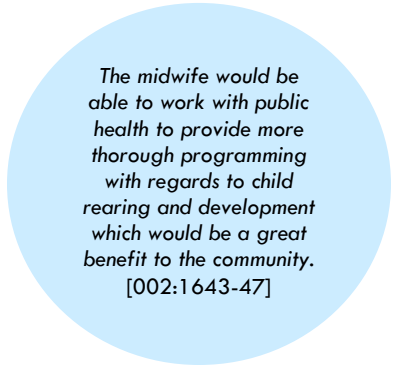
Midwives consider pregnancy as a state of health and childbirth as a normal physiological process. They may work alone or in a small group practice, with each practice having on-call 24-hour care available. A midwife works in a variety of settings, including a clinic, hospital, or client's home, according to the request of the woman in her care. Because of this, it is important for midwives to have admitting and discharge

privileges at the hospital maternity unit or units within the catchment they serve. In the event of a planned home birth, the birth is attended by two qualified attendants skilled in neonatal resuscitation and management of maternal emergencies.¹⁰⁸ The primary attendant is a midwife and the second attendant may be another midwife or a health professional whose qualifications have been approved by the CMBC.

Scope of Practice

Midwives in BC and across Canada work as primary caregivers mainly to women and newborns in uncomplicated pregnancy, birth, and postpartum. The scope of practice for midwives in BC specifically includes:

- assessing, monitoring, and caring for women during normal pregnancy, labour, birth, and postpartum periods;
- providing counsel, support, and advice to women during pregnancy, labour, birth, and postpartum periods;
- managing normal vaginal deliveries;
- providing care for, assessment, and monitoring of the healthy newborn; and
- providing advice and information on infant care, contraception, and family planning.¹⁰⁹



The midwife would be able to work with public health to provide more thorough programming with regards to child rearing and development which would be a great benefit to the community. [002:1643-47]

To aid in providing these services, midwives are authorized to order a variety of diagnostic and screening tests, as well as prescribe a variety of medications. In the event that a woman or infant needs additional care during pregnancy, labour, delivery, or postpartum, a midwife will seek collaboration with other health care professionals through discussion, consultation, or transfer of care. In the event that transfer of care occurs, the midwife provides supportive care to the woman and resumes primary care when appropriate.

Education

Midwives come from diverse educational backgrounds, but to register and practice in BC they must undergo written, clinical, and oral examinations specified by the CMBC. British Columbia has one midwifery training program: a four year Bachelor of Midwifery degree offered through the Faculty of Medicine at UBC.¹¹⁰

2. METHODS

Project Background and Description

The mandate of the Centre for Rural Health Research is to contribute to an evidence-base for making decisions about how to optimally provide health care to rural parturient women. As one of the challenges to the provision of rural maternity care has been the *closure* of services, a key task at the centre has been to investigate the components of *sustainable* services. To this end, the current project was the result of a CIHR-funded grant entitled, “Sustainable Rural Maternity Care: A Comprehensive Approach to Program Planning.”

Research Goals and Objectives

The **goal** of the research project was to undertake a community-based, participatory research process involving multiple key stakeholders in three rural BC communities to determine the health service delivery conditions necessary to support sustainable rural maternity care in each community. Objectives included having participants identify the resources and activities that were necessary to support the needs of rural parturient women – either locally or in referral communities – and consider assumptions about maternity care in their community (Is it important? What are the implications of the lack of care in the community?). Two crucial parts of the research were (1) ensuring all voices – community and decision-making – were heard, and (2) engaging the relationships that would facilitate changes at a local level after the research was complete.

Overview of Methods and Study Sites

We used a three-phased qualitative approach to the research which included:

- Interviews and Focus Groups with key stakeholders (including care providers, allied health professionals, and community leaders) in each community;
- Bringing back initial findings to each group of key stakeholders to confirm accuracy of findings; and
- Surveying other communities of like size across BC to see if the solutions found are applicable to their community.

Research was undertaken in Bella Coola, Queen Charlotte City/Skidegate, and Masset/Old Masset. These three communities were chosen based on the following criteria:

- Population size;
- Diversity in ethno-cultural composition of population;
- Geographic circumstances and transportation conditions;
- Designations as “high outflow” communities (more than two thirds of women from the community give birth in a location outside of their community); and
- Current service levels (rural maternity care services provide either: maternity care with local cesarean section services; maternity care without local cesarean section services; and, maternity care with no local intrapartum care).

Bella Coola, Queen Charlotte City/Skidegate and Masset/Old Masset each share similar population sizes (approx. 3,000 people), demographics, and isolation factors (greater than 4 hours from a referral hospital). Despite these similar community characteristics, each community has a different model of maternity care from no services (Masset/Old Masset) to local care without cesarean section back-up (Queen Charlotte City/Skidegate), to intermittent access to cesarean section services through a GP Surgeon (Bella Coola).

Within each study site we did interviews and focus groups with members from the following groups:

- Physicians;
- Nurses;
- Midwives;
- Women who had given birth during the past 5 years;
- Doulas and other informal birth attendants;
- Local hospital administrators;
- Regional hospital administrators;
- Specialists (obstetricians and perinatologists) in referral and tertiary care hospitals.

In Masset/Old Masset and Queen Charlotte City/Skidegate we also interviewed women from the community to clearly understand their values and priorities around birth. We did not do this in Bella Coola out of respect for a parallel, community-based research project on Rural Women’s Experiences of Maternity Care that was being undertaken at the same time. It is anticipated that results from that study will contribute to a comprehensive understanding of the needs of community members and be interpreted alongside of these findings.

Data Collection

The research team visited Bella Coola in July 2005 to discuss the project and gain the consent of the Band Council and community members to undertake the research. Primary data gathering took place from March 1-5, 2006; at this time 18 interviews and two focus groups were conducted.

Bringing Everyone Together

One of the key values underpinning this project was a recognition of the need for dialogue between decision-makers, care providers, and community members in order to effect a solution that represented all viewpoints. To this end a community forum was undertaken in each research community with local participants as well as representatives from the Health Authority, the First Nations and Inuit Health Branch and the BC Reproductive Care Program. This visit took place in Bella Coola June 15-17th and involved two focus groups and a working group meeting to review results and begin a dialogue to work towards solutions.

3. BACKGROUND AND CONTEXT

a. Bella Coola General Hospital in Context

Geography and Context of Services

The Bella Coola Valley is situated in the central region of British Columbia. The valley is geographically isolated with the closest large settlement (Williams Lake) 452 kilometers away.

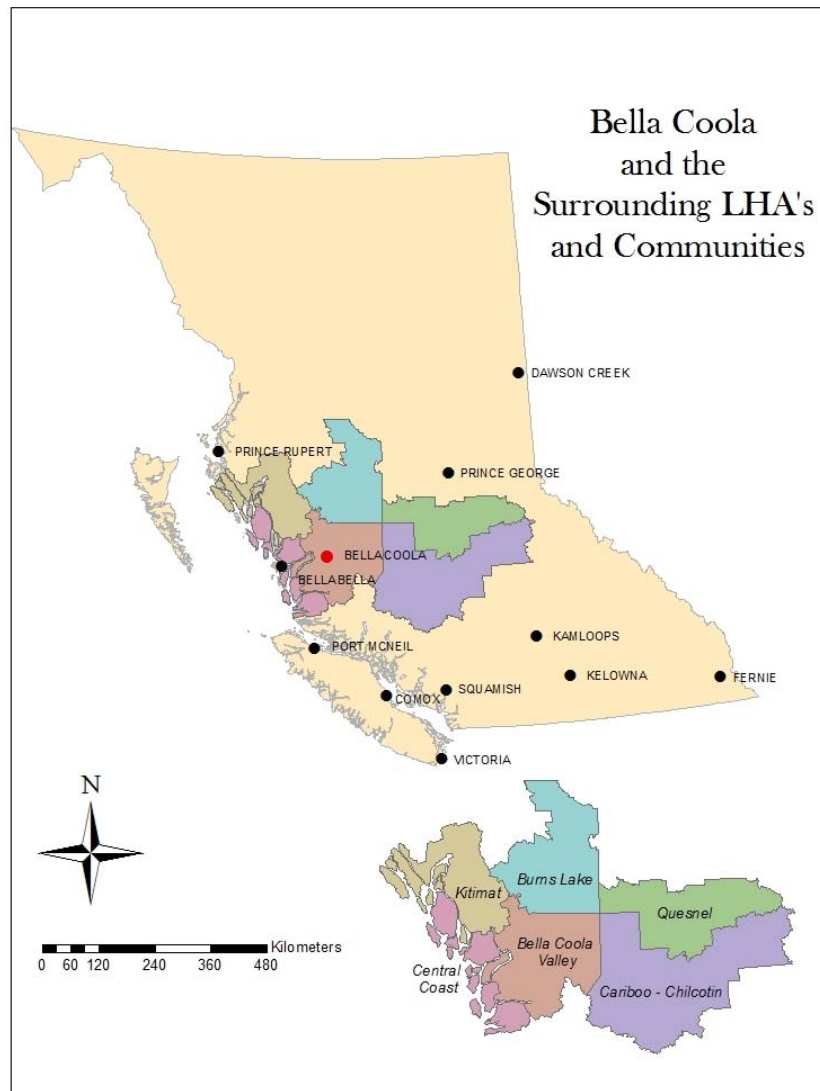


Figure 2

According to BC Statistics, the population of the Bella Coola Valley Local Health Authority (LHA) is 3,092 and its one hour catchment by driving is 2,307 (see Table 1 below).¹¹¹ Approximately 46% of the population is of Aboriginal descent from the Salish speaking Nuxalk Nation.^{112 113}

Table 1: Bella Coola Population and Birthing Demographicsⁱ	
LHA Population (2006) ⁱ	3,092
Approx 1 Hour Catchment Pop. (% of LHA)	2,307 (74.6%)
2012 Catchment Population Projections ⁱⁱ	2,272
2017 Catchment Population Projections ⁱⁱ	2,287
Average # of Births/Year ⁱⁱⁱ	30.5
Average Birth Rate/1000	13.2
Average Age ^{iv}	33.9
<p>Note i Statistics referenced from BC Stats, LHA, Bella Coola unless otherwise noted. Available from: http://www.bcstats.gov.bc.ca/DATA/sep/lha/lha_49.pdf ii Statistics referenced from BC Stats P.E.O.P.L.E.S. Available from: http://www.bcstats.gov.bc.ca/DATA/POP/pop/dynamic/PopulationStatistics/SelectRegionType.asp?category=Health iii Statistics referenced from BC Perinatal Health Program Provincial Delivery Charts (2002/2003-2006/2007) iv Hilary King. (2004). "Perinatal Survey – Central Coast/Bella Coola Valley."</p>	

Bella Coola is currently facing a number of social issues including high unemployment, crime, and teen pregnancy rates in comparison to those rates in other like-size rural, remote, and isolated communities in British Columbia (see Table 2). The major elements of the economy in Bella Coola include forestry, fishing, trapping and public administration.¹¹⁴

Bella Coola General Hospital

The meaning of health in Bella Coola is embedded within the community's social, cultural and geographical context. According to speakers at a Central Coast Health Summit, in Bella Coola "Health care delivery is not about the structure of the health system but about its interface with the community."¹¹⁵ The first hospital in Bella Coola was built in 1908, and was operated by the local hospital committee.^{116 117} The United Church assumed responsibility of the Bella Coola

General Hospital (BCGH) in October 1927 and maintains administrative responsibility through arrangement with Vancouver Coastal Health.¹¹⁸

Table 2: Bella Coola Valley LHA Social Indicators in Comparison to British Columbia		
Social Indicators	Bella Coola	British Columbia
Unemployment Rate	8.7%	2.5%
Crime Rate (<i>violent</i>)	6.6%	3.1%
Crime Rate (<i>property</i>)	18.4%	11.7%
Education (<i>% people without high school completion</i>)	24.6%	17.2%
Life Expectancy at Birth	75.1	81.1
Infant Mortality Rate (per 1,000 live births)	15.2	4.2
Teen Pregnancy Rate (per 1,000 women 15-17)	80.0	16.2
Note: Statistics referenced from BC Stats, LHA, Bella Coola unless otherwise noted http://www.bcstats.gov.bc.ca/DATA/sep/lha/lha_49.pdf		

Currently there are 4 full-time (FTE) general practitioners staffing the medical clinic and hospital, some through locum positions. On-site services include general medical/surgical care, non-specialist paediatrics, trauma, cardiac, palliative, psychiatric, long term care, and out-patient services. There is 24-hour access to emergency care. Level 1 community chemotherapy care is also offered.

Maternity Care in Bella Coola

Deliveries have occurred at BCGH since the hospital opened in 1908. Between the 1970's and 2007, intermittent surgical care has been available through general practitioners with advanced obstetrical and anesthetic skills (GP Surgeons). Although the hospital has an absence of immediate specialist backup and advanced technological support, obstetrical outcomes have been positive.¹¹⁹ The nearest 24/7 cesarean section service is Cariboo Memorial Hospital in Williams Lake, 452 km away (approximately 6 hours surface travel time in good weather). Despite access to local care,



the intermittent nature of surgical back-up requires approximately 50% of women from the catchment to deliver elsewhere. Table 3 details delivery trends.

Table 3: Where do women from Bella Coola deliver?				
Hospital	2004-2005	2005-2006	Average	%
Bella Coola General Hospital	15	14	14.5	47.5
Cariboo Memorial Hospital	12	10	11.0	36.1
BC Women's Hospital	5	2	3.5	11.5
Home Births	0	0	0.0	0.0
Other	2	1	1.5	4.9
Total Catchment Births	34	27	30.5	100

A moratorium on local maternity services began July 1, 2008 due to concerns for patient safety after the resignation of a local physician who had been providing surgical back-up in the community. Currently, for non-urgent care, women are able to go to the hospital of their choice to deliver; urgent cases are transferred to the closest service area hospital based on bed availability. The United Church Health Services is currently undertaking a review of services to decide the best way to meet the needs of pregnant women in the Bella Coola Valley and recognizes that maternity care has been identified as a major health care priority for community members in Bella Coola.^{120 121}

*Why can't we be in a place that helps take pressure off Vancouver because Vancouver can't handle the flow and there's not enough beds quite frankly. Instead of focusing on centralizing down to the big centers, how about beef up rural places' ability?
[011:736-44]*

4. RESULTS

Themes from Interviews and Focus Groups

In the interviews and focus groups, care provider and community-based[‡] participants explored the activities and resources they felt were necessary to support birthing women in the community. They also discussed the barriers the community faced which, when overcome, could lead to better support for local birth or for women who needed to travel for care. Underlying this discussion, however, was an articulation of the *values, assumptions, and beliefs* about birth held by the participants. It is useful to understand these attitudes, and how they differed between the two groups, as they provide the foundation for the activities and barriers that were perceived. As the discrete perspective of community members was not captured in some of the themes below, they are presented in a separate section at the end.

a. Care Provider Values, Assumptions and Beliefs

Care providers expressed four key predispositions regarding birth in Bella Coola:

1. There is a high level of service provided by the hospital based on its catchment size

Throughout the interviews care providers noted the high level of services available to the community, including surgical obstetrics, which is not available to other communities of like size across the province. As one participant noted,

I think we are doing a very good job here, providing good care in the community as much as we can. It's not perfect ... we can't do it all the time but I think this community is extremely lucky to have the physicians with the skills they have. I think we should be a role model for other rural communities. [004:432-39]

The historical precedent and support of the United Church Health Services was acknowledged as the catalyst to this high level of care. There was also an acknowledgement by providers that within a context of limited resources, surgical maternity services come at a cost to other services:

[‡] This terminology is used to distinguish between hospital-based medical and nursing care providers and community-based leaders, doulas, and allied health workers. It was clear during the course of the interviews that care providers were active members of the community with a commitment to and engagement to local pursuits.

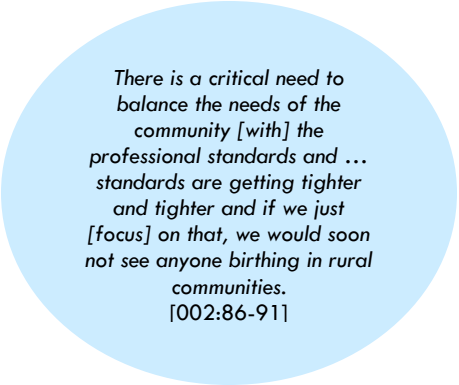
We have about 20 births here a year ... but every day somebody comes to the emergency with chest pain. Maternity only happens maybe twice a month, if that. That's a lot of resources. [08:376-86]

2. There are unrealistic expectations regarding the level of services desired by the community

All care providers noted that the high level of services available was as a double-edged sword as it gave rise to community expectations without a clear awareness of the challenges incurred in sustaining the services. As one care provider noted, "I think so many people that live here have never lived anywhere else and they don't realize what it is like in other communities" [014:561-69]. The historical precedent leads to social perceptions around appropriate services:

I think a big piece we haven't touched on is social perception. The perception is that if you're going to have a baby you're going to have it in this community and you're going to have all of the services of a big centre – that's your right. I think that's an unrealistic perception. [011:943-56]

Beyond services available, the care provider participants felt there were also unrealistic interpretations of the role of physicians in the community including a lack of acknowledgement of the need for balance in the physicians' lives. As one expressed:



There is a critical need to balance the needs of the community [with] the professional standards and ... standards are getting tighter and tighter and if we just [focus] on that, we would soon not see anyone birthing in rural communities. [002:86-91]

When you're a doctor here and doing 1:3 nights call, that's a lot! The docs are really worked hard and there is a risk of them burning out. They need their holidays. And yet there's definitely an unrealistic community expectation that if you're a doctor, you should be doing it from the love of your heart and you really shouldn't have a life. [011:1416-29]

Many of the expectations for services focused directly on the availability of cesarean section in the community and the challenges that providers and administrators felt trying to offer the service as frequently as possible within the limited health human resources (GP Surgeon, GP Anesthetist, Operating Room Nurses) available in the community. As one participant noted, "People in the

community want us to have c-section coverage all the time with a locally-based obstetrician. Well it's not going to happen." [014:217-25] The participant went on to note that the desire came out of a lack of understanding of what is involved in securing such care, and the barriers faced, such as the supply of physicians: "You guys, Where are the doctors?! There has to be doctors coming out of medical school that are going to be okay with delivering babies in rural communities to keep this going." [014:667-73]

Many of the care providers comments were underscored by a recognition of the community expectations juxtaposed with the vulnerability of local services. As one noted,

There are extremely high expectations of what they can have here and I don't think people realize what it's riding on ... you know, how little it would take to lose everything. [013:835-38]

3. There is a low community tolerance for risk

Participants thematically expressed the perception that women and families in the community would not be comfortable accepting the risks associated with giving birth locally without access to cesarean section, even though as care providers they would be willing to offer the service. As one said,

If I'm here by myself, and I have a bad outcome, it's going to really jeopardize my ability to continue to do what I do ... If there is a bad outcome, I'm afraid the doctor is going to be blamed no matter what.
[013:1470-79]

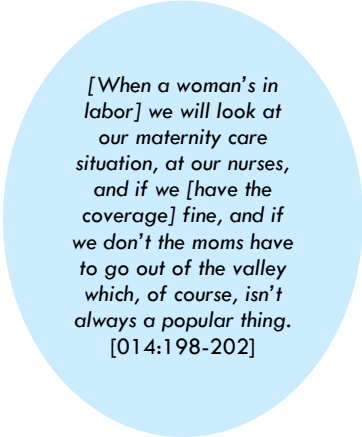
What do you do if you get acute fetal distress? It's fine as long as the patients understand and are willing to take the risk – it's no big deal for us to do the deliveries but they do have to understand [the risks]. Once they understand, most people go off and deliver in Williams Lake. We're not getting a whole bunch of people saying, 'Look, I want to deliver here and I am willing to take the risk.' [003:307-16]

Others were sensitive to the perception of inequitable care between Aboriginal and non-Aboriginal peoples and expressed concerns that offering services without surgical back-up might lead to perceptions of discrimination:

I do think that if there were some bad outcomes, we would be in a lot of trouble for providing that kind of service; if there were bad outcomes it would be looked at as discriminatory. [004:420-24]

4. Birth is normal only in retrospect

Underscoring comments about local delivery without cesarean section access was an appreciation of the unpredictable nature of birth. Several participants recalled stories of low-risk, normal deliveries turning problematic ‘in a heartbeat.’ These aggregate experiences, accrued over time, were provided in contrast to the individual experiences of birthing women who seldom experienced bad outcomes. As one participant said,



[When a woman's in labor] we will look at our maternity care situation, at our nurses, and if we [have the coverage] fine, and if we don't the moms have to go out of the valley which, of course, isn't always a popular thing. [014:198-202]

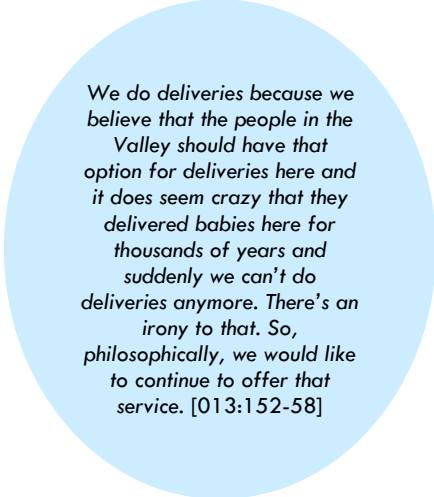
A lot of women believe that natural means everything will turn out okay and [they] forget that their grandfather married three times because his previous wives all died in labour. [012:559-68]

b. Community Values, Assumptions and Beliefs

Community members, including leaders and allied health professionals, also conveyed four beliefs about birth in their community. They were:

1. The importance of birth to the Nuxalk peoples

The community participants provided rich descriptions of the importance of birth to their community both explicitly and also through the stories of birth in the community. In contrast, one participant spoke of her perceptions of the differences in the connection between her two children and the larger community, attributing them to the fact that one child was born in Bella Coola while the second was not [001:859-67]. The stories of local birth focused on the support of the community, often physically, in the delivery room, but also through celebration and cultural traditions afterwards. As one participant said,



We do deliveries because we believe that the people in the Valley should have that option for deliveries here and it does seem crazy that they delivered babies here for thousands of years and suddenly we can't do deliveries anymore. There's an irony to that. So, philosophically, we would like to continue to offer that service. [013:152-58]

When the community experiences a birth, they welcome a new soul and support the transfer of the spirit. [001:1440-45]

Embedded in the importance of community is the importance of family supporting and participating in the birth. Once participant said,

It meant a lot to have my daughter born in Bella Coola because I had my mother-in-law, a couple of aunts, a cousin [who were] all able to be with me and witness the birth. [005:74-81]

The excitement precipitated by local birth extended also into the larger community as one participant observed,

I know how excited the nurses are when there's a baby born ... the Head Nurse in running the baby through [the hospital] and we all get to look at it and have the sense of wonder ... there's a new life. [011:332-37]

Others observed the importance of local birth in sustaining the physicians and nurses who often deal with the stress of illness and disease:

From a service delivery model, it's a very rewarding aspect of service delivery, bringing new families, new babies into the community. It is a very positive part of acute care rather than dealing with death issues. [002:64-70]

Finally, several participants spoke of the consequences of the lack of local birthing being a disruption of the circle of life, leading to the energy of death unbalanced by the energy of creation. It was believed that this has a profound impact on the spiritual energy of the community.

2. The necessity of cesarean sections for local birth

Bella Coola has had a long history of providing residents local access to cesarean section since the early 1900s through the support and commitment of the United Church Health Services, a service which is not provided by any other community to a population of like size in British Columbia. Efforts to sustain the service have been motivated by the recognition of the isolation of the community and the negative psycho-social, emotional, and financial consequences to parturient women and their families of leaving the community to give birth. The historical level of services, however, has led to the belief that surgical services are necessary for local birth to occur (in contrast, for example, with Haida Gwaii/Queen Charlotte Islands where, aside from a brief interlude, only non-surgical local birth has been and continues to be provided to the community). This dynamic was recognized by several participants. As one noted,

Yes, it's good that we have [local access to cesarean section] but as with Bella Bella where they don't have it now, there is a dependency and unless there is cesarean section capacity there will be no birthing in the community. [002:128-36]

The belief in the importance of cesarean section hinged on issues of safety that had been reinforced over time and wanting the best possible outcomes for mom and babe. As one community member said, "I strongly feel that without cesarean section coverage women should go out [of the community] for the safety of their life and their baby's life." [005:421-23] Another participant said,

If you were to ask me would I encourage my daughter to say here if there was no cesarean section coverage I would say 'no'. As much as I would like her to deliver here I would [feel uncomfortable] just because things can go wrong. [001:316-17]

3. Perceived differences in care received by Nuxalk and non-Nuxalk women

Some community members perceived a difference in perinatal care available to Nuxalk and non-Nuxalk women, particularly in the options afforded them regarding staying or leaving the community at birth. Many felt they were encouraged to leave at a higher rate than non-Nuxalk peoples. During focus group discussion, however, it was noted by several participants that differences in care are a matter of individual perception and that it would be difficult for a Nuxalk woman to have a clear understanding of differences in care as they are not involved in the care of non-Nuxalk women.

4. The need for a community-based process to determine level of local services

Several community members noted the importance of an inclusive process, involving the community, care providers, and other key stakeholders regarding the future of birthing services in Bella Coola. A crucial part of the process would include an *informed consent discussion* regarding the risks of birthing in the absence of surgical backup, the benefits and disadvantages of intermittent services, and the social – and other – risks of leaving the community to access care.

It is useful to consider the contrast in attitudes, values and beliefs between the two groups as they give rise to different activities needed and barriers perceived in supporting local birth and birth away. They are represented in Figure 3 below.

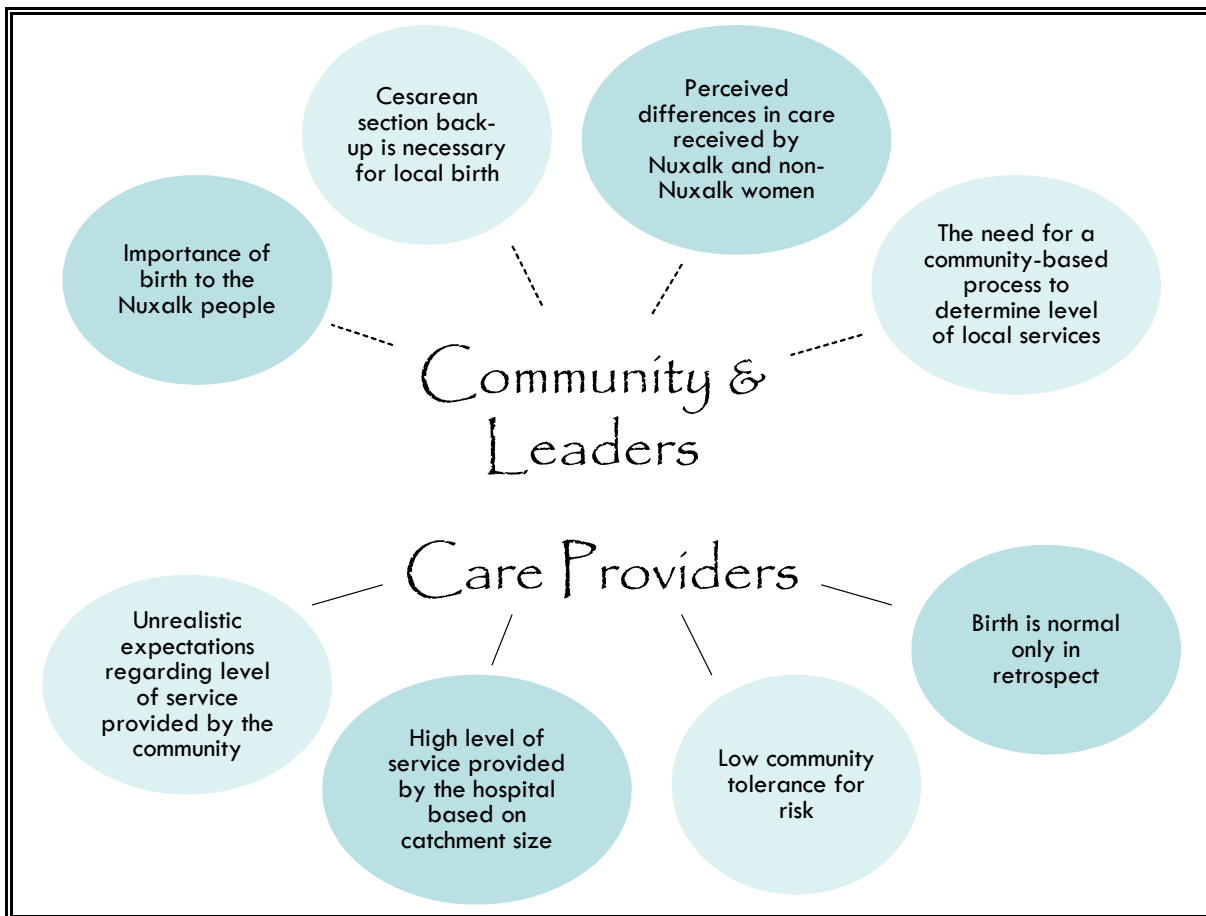


Figure 3: Values, attitudes, and beliefs of participants

c. Impacts

Despite differences in attitudes, values, and beliefs expressed by each group, when participants were asked what they wanted the *impact* of a local birthing system to be – the ideal outcome – there was a high level of concordance between the groups, as represented in Figure 4 below.

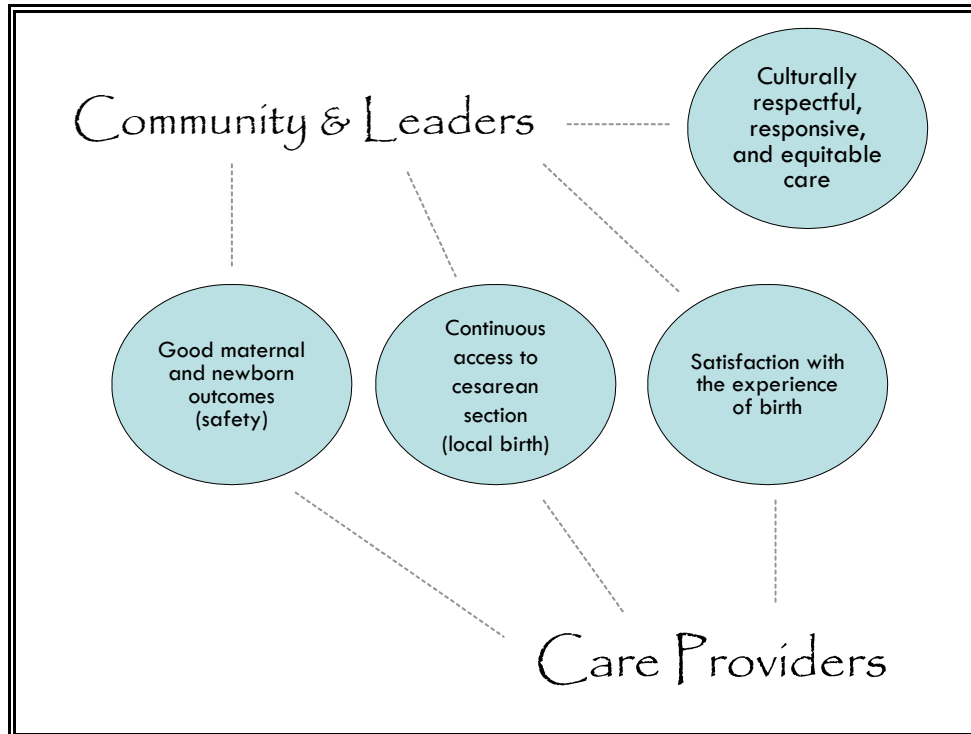


Figure 4: Desired impact of birthing services

Despite the desire for local, safe (cesarean-section supported) birth, both groups acknowledged that even with an active cesarean section service, activities were also needed to optimally support women who needed – or chose – to leave the community for care. Activities necessary to support local birth and birth away are discussed below.

d. Local Birth

Both community members and care providers spoke of the importance of birth in Bella Coola, drawing on the historical tradition of birth in the community, the fact of geographic isolation, and the importance of completing the cycle of life and death. Participants conveyed rich descriptions about the intangible benefits of birth in the community. As one described,

There was a young mom having her baby and there were five generations in the room by the end of it. Her mother, her grandmother, and her great-grandmother were all in the room and the great-grandmother, who was the baby’s great-great-grandmother, cut the baby’s cord. [008:778-84]

See further care provider comments in Table 4 below.

Table 4: The Importance of Local Birth	
Theme	Participants’ Response
Historical tradition	We do deliveries because we believe that the people in the Valley should have that option for deliveries here and it does seem crazy that they delivered babies here for thousands of years and suddenly we can’t do deliveries anymore. There’s an irony to that. So, philosophically, we would like to continue to offer that service. [013:152-58]
Geographic isolation	[Birthing locally] is important because we’re geographically so isolated; it’s not like going to another town an hour and a half away, especially in the winter. To drive to Williams Lake is 6 hours and unless you’ve got a good vehicle, you can’t do it. I don’t drive out in the winter and I’ve lived here my whole life. [001:543-51]
The need to balance energy	I think local birth is an extremely important part of this community, and the hospital. I think when you have births happening in a hospital it somehow balances the deaths and it makes it an easier place to work and it makes it an easier place to be a patient when good things are happening instead of just bad things. And there has certainly been a lot written about how keeping obstetrics in a community helps with the general level of medical care because you have to deal with the emergencies that are associated with obstetrical care and if you start losing those, you lose a whole bunch of other things that are not necessarily obstetrically related. [013:525-38]

The recognition of the importance of local birth was juxtaposed with a clear understanding of some of the activities that need to occur to support birth in the community, illustrated in Figure 5 below:

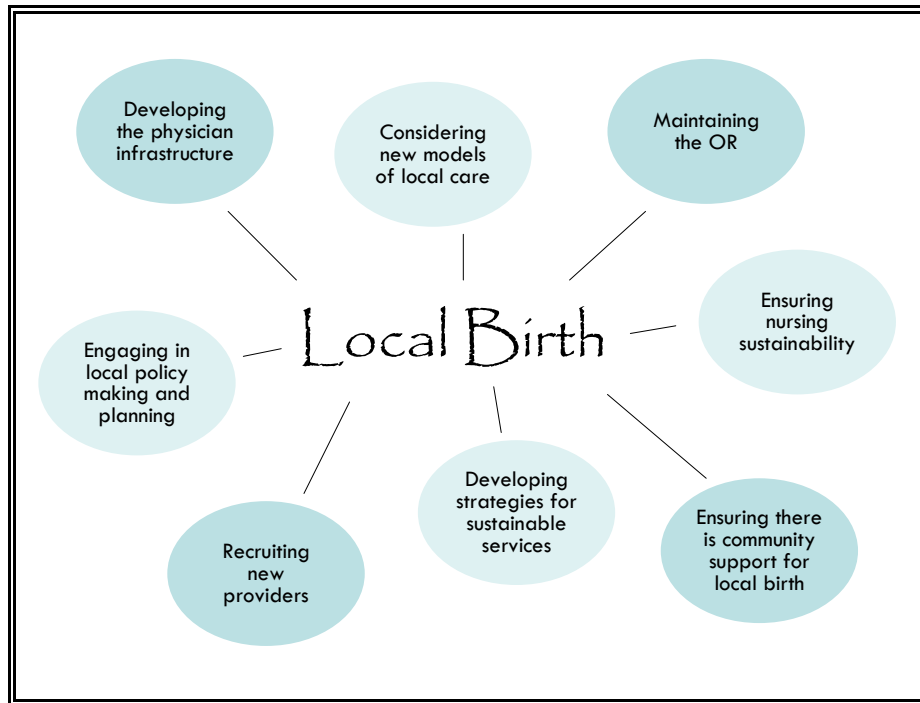


Figure 5: Activities to support local birth

Each activity for supporting birth in the community is reviewed below.

Developing Strategies for Sustainable Services

Participants identified strategies for maintenance of services that rested on recruiting and retaining trained providers but also included clinical approaches such as effective risk screening and procedures such as social induction, maintaining their clinical competence through continuing medical education or continuing professional development, and prioritizing positive hospital relationships and teamwork (see Table 5).

Barriers to sustainable service focused on health human resource issues (understaffing of nurses, attrition of physicians, and lack of locum coverage) and challenges around securing enhanced skills. Although the participants were not overly concerned about litigation in the event of a bad outcome, most did raise it as a potential barrier to practice. One of the health human resource issues unique to small communities was the social stress incurred due to the level of enmeshment of

the care providers within the social fabric of the community.[§] Representative participant quotes are found in Table 6.

Table 5: Strategies for Sustainable Services	
Strategies	Participants' Response
Recruitment & retention of care providers	We're going to have to really start looking at what physician resources they need to keep the system going because it's dependent on a few people and if you lose those key players then the system will fail. [004:773-76]
Clinical strategies – social inductions	We do quite a few inductions. If [the providers] are leaving town within a week of someone's due date and we've got staffing, we'll go ahead if mom's amenable. It's never forced on a mom – it's certainly their choice. [014:169-78]
Maintaining clinical competence/confidence	In maternity care the vast majority of times it goes well but when it does go wrong it can be life-threatening. So if we want to do it we have to be really serious about having on-going training for these emergencies [so] there's no running around when it happens; we all know what we should do and how to do it. [12:838-46] Last month we had a doctor and nurse come up and give us a little refresher and that's probably something we need every couple of years at least because of our low volume of practice. [012:709-15]
Teamwork/positive relationships	We've done a darn good job because of the team; it's a good team that's worked together for years and you can anticipate stress levels without words being spoken and it's a supportive team. [015:268-81] When someone comes into the hospital all of the doctors are alerted, which is very nice. Usually all of the staff know there's someone in labor and everybody sticks kind of close and keeps an eye on things. That's what a community does – they all pull together. [014:1254-57]

Table 6: Barriers to Sustainable Services	
Strategies	Participants' Response
Understaffing of Nurses	I mean you should have seen all five of those staff the day [after an emergency cesarean section] because they had been up all night and I think the last one left at 7:00 in the morning but the clinic opens and there's nobody else ... they all got about 5 ½ minutes sleep and then had to come into work. [011:1191-97] [When a woman's in labor] we will look at our maternity care situation, at our nurses, and if we [have the coverage] fine, and if we don't the moms have to go out of the valley which, of course, isn't always a popular thing. [014:198-202]

[§] See Jude Kornelsen and Stefan Grzybowski, *Obstetric services in small rural communities: What are the risks to care providers? Rural and Remote Health 2008; 8 (Online).*

	A lot of times I see a lot of overtime, a lot of workload issues around inductions and that sort of thing, like somebody is going to be induced into labor, first question is, 'do we have nurses that can sit with them? Because if we don't, we can't do the delivery here.' [101:396:409]
Attrition of physicians	Three of the four docs that we have are probably all within a 5-year timeline of wanting to retire, so who's going to replace them and will the replacements want to maternity care and will they have the skills, the desire, the support? [015:297-301]
Difficulty in securing locum coverage	We have two people due to deliver. We're making arrangements to send one out tomorrow [because] there's no coverage. [110:88-93] Many of the locums say right off the bat, 'Not willing to do maternity care.' Generally, we're quite desperate for locums because the doctors do need their time off so we can't be that picky. [011:530-42]
Challenges around securing CME	To spend thousands of dollars to go and upgrade for one [skill] a year, boy, there's a lot of other things that we see more frequently. [012:864-68] If we decided we wanted to do obstetrics then we need to have frequent practice and not only frequent practice but frequent instruction so that we know that what we're practicing is actually what we should be doing. [012:864-68]
Potential litigation due to bad outcome	There is a critical need to balance the needs of the community [with] the professional standards and ... standards are getting tighter and tighter and if we just [focus] on that, we would soon not see anyone birthing in rural communities. [002:86-91] If we ever had a problem within an elective section, it would be difficult to defend what we were doing. [013:722-24]
Care providers' social ties to the community	Because of the size of the community, we know all the family ... we see them in the grocery store, we see as constant reminders that maybe we could have done something different. [014:467-93] If I'm here by myself, and I have a bad outcome, it's going to really jeopardize my ability to continue to do what I do ... If there is a bad outcome, I'm afraid the doctor is going to be blamed no matter what. [013:1470-79]

Ensuring Nursing Sustainability

All care-provider participants were aware of the challenge of providing services with limited access to trained and confident labor and delivery nurses and, in the instance of operative delivery, OR nurses. Thematic issues included the desire to have two nurses per shift (to allow one to focus on labor and delivery, should a woman be in labor, with the other responding to acute events) and the challenge of providing on-going education and training so nurses can maintain their skills in a low-volume environment. Other themes included priorities for recruiting, lack of

rural-specific training for nurses and the current nursing shortage in Bella Coola. Participant quotes can be found in Table 7 below.

Table 7: Nursing Sustainability	
Nursing Sustainability	Participants' Response
Strategies for recruitment	<p>The needs here are unique so my gut feeling is to say that you need a certain experience level [for new recruits], but I think there should be strong investment in young employees who can adapt their skill set to the requirements of the community. [015:243-50]</p> <p>Every time we recruit, I think we need to know what programs we are trying to bolster and look at fractional FTE's or multiple cross-training. I really think that is our salvation here. [015:228-32]</p>
On-going education and training	<p>We don't have to be giving our training all in the major centres. You know we should be able to figure out now with technology, how we can do outreach. [002:449-54]</p> <p>I think that the only way having more OR nurses here is if they come here [with experience]. I don't think I could realistically expect anyone to go out and take the course and then come back here. But I could certainly do some on-site basic training. [014:856-63]</p>
Lack of rural-specific training	<p>I'm not sure that the training facilities even consider rural health care when they do the training. I'm not sure they prepare people with the skills necessary to go into the rural areas. [015:325-28]</p>
Current nursing shortage in Bella Coola	<p>There are two vacant nursing lines right now in the hospital so not only do we not have any casuals, we don't even have basic coverage right now. [008:1101-04]</p>

Recruitment and Retention of Care Providers

As in all rural communities, the importance of recruiting and retaining providers was a key priority in maintaining services. The care providers in this study were acutely aware of this as several noted they were starting to think of retiring. Community members were less aware of the challenges of recruitment and retention as they had had the benefits of a stable complement of providers in the community for over a decade. The challenge of recruiting and retaining nurses was more salient as the community had experienced high turnovers during the past few years. Recruiting challenges included finding individuals who were suited to work in rural environments and the development of strategies to compensate for a lack of rural experience. An additional suggested strategy to sustain rural care in the community was the recruitment of a registered

midwife with a scope of practice that would involve activities beyond prenatal and postpartum care, labour, and delivery. Several participants saw positive attributes to midwifery care in the community and were clear that the most sustainable solution included two salaried midwives to avoid burn-out due to onerous call if just one were available. Representative quotes can be found in Table 8 below.

Table 8: Recruitment and Retention	
Recruitment	Participants' Response
Nurses	[A few years ago] there was a big group of nurses and they had been here for a while and then most of them ended up leaving about five years ago. It has been really difficult since then to get staff to stay. [008:1404-10]
Need for practitioners with rural experience	You have to find somebody who's willing to do all of this call, at the expense of their family and their private lives, and take on the responsibility that goes along with it. So you need somebody who's definitely interested in a challenge – not just a job and a salary. [013:944-52]
Recruitment of Registered Midwife	There is more a midwife could do than just the birthing per se; there's a lot of pre-birth and post birth things that the midwifery could be involved in directly. [002:640-48] I guess ideally there would be one or two midwives in town who could support the doctors and the doctors could be there support. I'd like to see a relationship between the midwives and the doctors, for sure. [011:564-70]

Barriers to the recruitment and retention of care providers included the lack of rural-specific training for physicians. This was more pronounced for GP surgeons who lack a credentialed curriculum and accreditation process. Within this context, inequity between physicians and nurses in determining their respective scopes of practice was noted: “for doctors it is a personal choice; it is kind of imposed on nurses though, that we *must* have maternity skills” [016:280-8]

Additional barriers to recruiting new professionals included lack of employment for spouses and the low volume of deliveries, which makes it difficult to maintain competence and confidence. This is compounded if physicians want to maintain their obstetrical skills as well. As one participant noted;

I would be worried for the midwife's sake about her caseload and whether she'd have enough to do, because I wouldn't want to stop doing all the normal ones

because that's one of the things I enjoy so I wouldn't want to stop doing those and just be available for the difficult things. [013:1522-30]

Physical Infrastructure

According to almost all of the participants interviewed, one of the activities needed to sustain local services was improvements to the physician infrastructure in the hospital, including the acquisition of fetal monitors, birthing beds, a hand-held Doppler, and other equipment. Additionally, several care providers noted the potential for teleradiography which had not been realized in the community and would enhance their confidence in doing local 18-week ultrasounds. Barriers to enhancing the local infrastructure were all funding related.

Table 9: Local Policy and Planning Initiatives	
Local Initiatives	Participants' Response
Expanded catchment	<p>It would be nice for us to move towards having services throughout the central coast: we should be looking at the whole central coast because of the small population base. [002:209-15]</p> <p>Anaheim Lake is theoretically in our catchment area although now it's in a different health authority ... but those people have the freedom to go either to Bella Coola or Williams Lake. The nurses up there are encouraged to send them here because it's a shorter distance and theoretically cheaper but the people themselves have the freedom to go to Williams Lake, so they go. [013:227-35]</p>
Continued role of the United Church	<p>The community response was very strong in favor of the United Church staying involved ... The part that I think really means something to the community is the fact that they actually have a community voice and community say where, if it wasn't [for the United Church], there wouldn't be a community board. [002:235-45]</p> <p>If [surgical services] wasn't supported by the United Church, I am sure it wouldn't have been maintained. [003:362-66]</p>

Local Policy and Planning

Many participants had ideas that could be enacted at a local level to increase the sustainability of local services including increasing Bella Coola's catchment to attract more birthing women to the hospital thereby making it easier to maintain skills and confidence, supporting the continued role of the United Church Health Services in the community and integrating existing resources for the benefit of the community (see Table 9).

Barriers to expanding Bella Coola's catchment included both social and geographic challenges between communities on the Central Coast and urban-centric guidelines for maternity care which did not recognize the reality of rural practice. As one participant noted,

My worry is that the people from Bella Bella would not want to come here; they enjoy going to the city to wait for their babies and have access to shopping malls and theatres and all those kinds of things. It's not easy to get here from Bella Bella: there are no scheduled flights. [013:1199:1203]

Community Support for Local Birth

Perhaps the most important impetus behind sustainable local services recognized by participants was the level of community support. Almost all care providers voiced their responsibility to respond to the needs of the community when those needs were expressed within the context of informed decision-making. As one noted, "I guess the community has got to make a decision first of all if it wants to decide to continue obstetrics, and if it wants to continue it as a full-time [activity]" [012:205-15]

Further community support was recognized through the Healthy Beginnings perinatal support program. As one participant said,

I see [Healthy Beginnings] as a really important player in this whole community. I think it's maybe one of the few things that has had a huge impact because they start off getting these young moms and they are trying to expand their program into an extended postnatal follow-up and parenting thing. [013:1536-52]

An additional aspect of support for local birth was identified through the positive relationship local care providers had with care providers in the referral centre, which was seen as crucial for maintaining local services. As one participant said,

They're very encouraging of what we do out here and they know the kinds of things we have to deal with. They have never been critical of what we do. [013:111-18]

Barriers to community support for local birth emanated from a desire for continuous access to local care (including surgical back-up), which lead to a lack of acceptance of the need for alternatives. Additionally, care providers perceived the potential for a lack of tolerance from the community for a bad local outcome even though no examples were given of community intolerance. During focus group discussion it was established that the low tolerance was for lack of local services, not for the potential for a bad outcome.

Sustainable OR

During the tenure of this research project, the lynchpin of sustainable local services rested in having sustainable surgical services through a functional OR and maintaining the competencies of providers so the OR is “not just sitting there like some sort of shrine.” [008:1283-86] As one participant said,

If the community decides they want services continued as a full-time thing so women are not thinking ‘I might have to leave town,’ then we need full support 100% of the time which would mean OR availability. [012:205-15]

Three of the four docs that we have are probably all within a 5-year timeline of wanting to retire, so who's going to replace them and will the replacements want to do maternity care and will they have the skills, the desire, the support?
[015:297-301]

Others recognized that if there was capacity to do cesarean sections, this might serve the needs not just of the Bella Coola Valley, but the Central Coast. One strategy suggested for increasing viability was increasing procedures by encouraging visiting specialists to come to the community for elective surgery instead of transferring people out. This plan was seen to have reciprocal benefits:

Why can't we be in a place that helps take pressure off Vancouver because Vancouver can't handle the flow and there's not enough beds quite frankly. Instead of focusing on centralizing down to the big centers, how about beef up rural places' ability? [011:736-44]

Several barriers were identified to sustaining the OR in the context of the low volume of procedures done, the most substantive being the limited health human and physical resources available. Concomitantly, several participants noted the extent to which local resources that did

exist were tied up in the instance of operative deliveries to the point of the procedure “taking over the hospital for a little while” [001:251-74] An additional barrier to maintaining competence that was identified was the advice provided by the British Columbia Perinatal Health Program not to provide elective cesarean sections (such as in the case of a repeat procedure or breech presentation). As one care provider said,

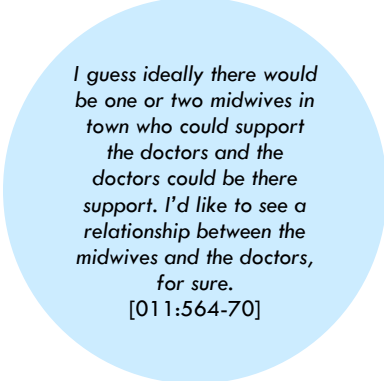
From our point of view... in some ways it was one less thing we had to do so that was appealing, but on the other hand we all feel we need to keep up our skills and the elective sections are often the most enjoyable because they're simple. We wouldn't keep anyone here if there was lots of complications. [013:729-36]

Interestingly, several care providers also shared the concern that getting enhanced training to do surgery would have a negative impact on their quality of life due to a sense of responsibility to be consistently available in the community. As one said,

The biggest thing that holds me back from obtaining extra skills is that I see a lot of my colleagues who have extra skills become indispensable so they can't leave town or go on vacation. The community shuts down when they are gone. I would be fearful of that because I do enjoy things other than medicine. [004:818-25]

New Local Models of Care

Almost all participants brought up the possibility for inter-professional care teams including midwives. It was clear that the most efficacious model would involve collaboration with physicians as opposed to independent practice. Within this model, the issue of surgical back-up was still deemed to be important. Others suggested the utility of an expanded scope of practice for midwives, which would both contribute to professional satisfaction in the context of low volume and also meet needs in the community that current care providers may be unable to meet due to workload issues. One potential expansion was in the area of nursing. Representative quotes can be found in Table 10 below.



I guess ideally there would be one or two midwives in town who could support the doctors and the doctors could be there support. I'd like to see a relationship between the midwives and the doctors, for sure.
[011:564-70]

Table 10: New Local Models of Care in Bella Coola	
New Models of Care	Participants' Responses
Physician-midwifery collaborative practice	Ideally there would be one or two midwives in town who could support the doctors and the doctors could basically be their support and would really only be there for anything a midwife couldn't do. I would like to see a relationship between the team, between the midwives and the doctors for sure. [011:564-70]
Continued need for surgical back-up	The ideal situation would be a midwife or doula integration and working in cooperation with the doctors and then the only issue that really needs to be addressed is what happens where there's an emergency and do we have the backup necessary? [011:379-88]
Expanded scope of practice for midwives	<p>The midwife would be able to work with public health to provide more thorough programming with regards to child rearing and development which would be a great benefit to the community. [002:1643-47]</p> <p>If we could find somebody who was midwife-trained, willing to do some midwifery but also willing to take on some other nursing type roles in the community, that might be a really nice fit. [013:1442-54]</p> <p>If the midwife was willing to do different jobs and wasn't focused just on deliveries, then there's positions like Healthy Beginnings director. [We have people in the community who are] so versatile and willing to do so many different things. So if you could find somebody who was midwife-trained, willing to do some midwifery but also to take on some other nursing type roles, that might be a really nice fit. [013:1434-45]</p>

Barriers to a Midwifery Model of Care

Several participants wondered whether or not the community was ready for midwifery care, given the current specialist-focused context of childbirth. As one participant said,

I don't think our society is prepared for midwives quite truthfully. If you had asked me that when I was having children I would have said, 'Yes absolutely and midwife fits into the picture.' But now I don't know if people are prepared to go that route. [010:661-74]

More specifically, several participants expressed concerns about home birth within a low-resource setting:

If it was up to me I would say 'no home births.' Obviously if a woman wanted a home birth she would have to be absolutely aware that that means she's putting her life and the baby's life more at risk. My preference is to bring the midwife in as part of the hospital. [012:543-51]

e. Influencing factors

The nature of and approach to maternity care in a small community is often influenced by external factors that are unique to each environment. An understanding of these factors is crucial to take into consideration when planning as, when unacknowledged, they may precipitate decisions or reactions that appear irrational, as opposed to responsive to existing or previous conditions. Some of the influencing factors that were evident in Bella Coola included:

- The long history and prioritization of local operative birth in the community;
- The involvement and commitment of the United Church Health Services and Vancouver Coastal Health;
- The geography of the community and experiences of isolation it has given rise to;
- Decrease in population over last 5 years;
- Recent increase in the number of teen pregnancies;
- The number of hospital service reviews without notable changes; and
- Lack of adequate funding for suggested improvements services.

f. Community-Specific Themes from Interviews and Focus Groups

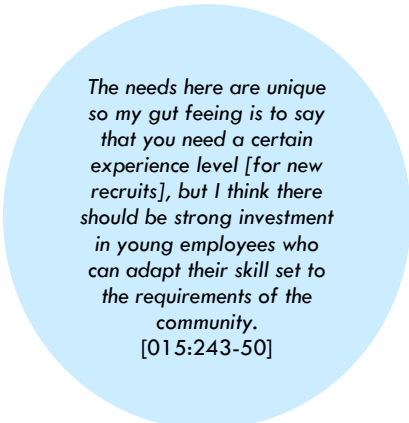
Through interviews and focus groups with allied health professionals and key stakeholders from the community, several community-specific needs and insights were captured. They are represented thematically below.

The Cultural Importance of Birth

Distinct from the general consensus on the importance of local birth, community members emphasized the cultural importance of birth through personal stories of their and their family members' experiences of birth at home and away. Some members spoke of "the support and transfer of the spirit" through birth [FG1:1148-59] and the disparate experience when birth occurs outside the community. One participant joked that she would be happy to deliver at Nuxalk Hall if it meant she could enjoy the supportive presence of her community [FG1:1621-22].

Necessity of Cesarean Section Services

During the focus groups and interviews community members expressed their belief in the necessity of cesarean section services as a pre-requisite to local care, despite the recognition the sustainable services were questionable due to the size of the community. There was a strong sense that the expectation for services was higher than in most rural communities of a similar size but it was recognized that this was due to a "low risk threshold." However, there was a clear feeling that dealing with risk tolerance should be a collective community endeavor.



The needs here are unique so my gut feeling is to say that you need a certain experience level [for new recruits], but I think there should be strong investment in young employees who can adapt their skill set to the requirements of the community.
[015:243-50]

Nuxalk Priorities

Respect and equity within the context of receiving maternity care were key priorities for Nuxalk peoples. It was acknowledged that although individuals may perceive a difference in care offered to Nuxalk and non-Nuxalk peoples, this is not the experience of the community at large. Regardless, it was agreed that such perceptions need to be treated with respect [FG1:750-63].

Local Policy and Planning

Community members noted that Bella Coola has been the subject of numerous studies and reviews, yet services continue to be in the state of crisis. This has led to a sense of dissatisfaction with the lack of concrete results despite participation in the studies [FG1:1638-43].

Community members agreed with many of the strategies suggested for improving sustainability of services and added suggestions such as a childbirth preparedness checklist which could educate women on the specific capacities of the hospital and potential barriers to local birth [FG1:1515-21]. It was felt that this would contribute to an understanding about the pressure placed on care providers to offer continuous surgical back-up in the community. Community members were clear in their sense that resistance to physicians' advice was unfair as the community does not have to deal with bad outcomes and the stress of providing emergency services [FG1:337-40].

Birth Away

Community members had an acute sense of the risks of leaving the community to give birth, including the psychosocial risks and financial costs. There was a sense that although the physical safety of mom and babe may increase when they leave the community to give birth, their emotional safety decreases. Interest was expressed in understanding the long-term effects of birthing outside the community [FG1:1069-1105]. There was a recognition of activities that mitigate birth away that the community regularly undertakes, including fundraising to support family members to accompany birthing moms and the introduction of video link technology to allow family members to "meet" newborns soon after birth. (Focus group members noted they would like to use this technology more frequently [FG1:1321-57]).



Potential Models of Care

Based on an analysis of interview and focus group transcripts with care providers, community members and other key stakeholders, 5 potential models of maternity care for the women of the Bella Coola Valley emerged, ranging from physician-based services with local access to cesarean section to no local intrapartum services, with the benefits, challenges, and feasibility issues associated with each one described. Three models including midwifery in the provision of care are also presented. Each model is discussed below.

Model A: Physician-based service with local access to cesarean section

Description	Benefits	Challenges
<ul style="list-style-type: none"> - Local maternity services supported by at least 3 FTE physicians all with maternity skills and at least 1 with surgical skills and 1 with anesthesia skills - On-call maternity nurse rota supported by call-back funding with at least 2 nurses with surgical/OR skills - Functional OR - <i>Expanded surgical scope of practice to sustain GP Surgery or cesarean-section only</i> 	<ul style="list-style-type: none"> - Ability to meet the maternity care needs of the majority of women within the community - Increased overall complement of services in the community (ex. Emergency services) - Honouring the importance of local birth to Nuxalk peoples and community as a whole - Better perinatal outcomes for the population than with no local intrapartum services - <i>If expanded surgical services available: Ability of hospital to meet more community needs</i> 	<ul style="list-style-type: none"> - Recruitment of physicians with specialized skills - Recruitment and retention of OR/maternity care nurses - Maintenance of surgical skills due to low volume - Transport issues due to inclement weather - Travel time to nearest cesarean section service - <i>If OR services limited to cesarean-section only: Challenges to sustaining OR (average 5-8 cesarean section annually)</i>

Feasibility Issues

1. Regulatory Issues
 - Lack of consistent regulatory framework for GP Surgeons
2. Professional Issues
 - Challenge of recruitment & retention of providers
 - Attractiveness of positions to providers
 - Challenge of appropriate coverage for time off call (eg. CME, holidays)
 - No locum program for GP Surgeons and GP Anesthetists
 - Need for strong and supportive relationship with referral centre obstetrician(s)
3. Funding
 - Expense of OR infrastructure and operating costs
 - Cost of CME for specialized skill maintenance for physicians
 - Cost of CPD for specialized skill maintenance for nurses
 - Need for incentives to support enhanced skill providers (nurses and doctors; MOCAP/on-call premiums for nurses)
4. Transport and Travel
 - Subsidized travel for women from Bella Bella and Anachem Lake
 - Possibility of FNIH funding being allocated to support local services rather than travel subsidy
 - Seasonal weather challenges to evacuation of women with pregnancy complications
5. Risk management
 - Necessity of having a reliable regionalized perinatal transport system for evacuating women in emergency situations
 - Quality improvement/assessment programs (MoreOB)
6. Community Issues
 - Need for clear community understanding of risks and benefits of local birth

Model B: Integrated physician and midwifery-based service with local access to cesarean section		
Description	Benefits	Challenges
<ul style="list-style-type: none"> - Midwife and physician providing primary maternity care to local community with physician-based surgical back-up - Supported by 1 midwife and at least 1 physician working together in shared practice (ex. shared call for labour and delivery; independent patient roster) - Home birth with second attendant back-up from nurses or other qualified community members - Expanded role for midwife (ex. well-woman care; sexual education in school) - Pre- and postnatal outreach to Central Coast; no midwifery deliveries outside of Bella Coola due to travel challenges (service contract with UCHS) - On-call maternity nurse rota supported by call-back funding - Expanded surgical scope of practice to sustain GP Surgery or cesarean-section only 	<ul style="list-style-type: none"> - Increased choices for birthing women in Bella Coola - Midwifery care in Bella Coola - Availability of home birth - Midwifery model of care well suited to meet the needs of a high risk/ vulnerable population - Ability to meet the maternity care needs of the majority of women within the community - Honouring the importance of local birth to Nuxalk peoples and community as a whole - Better perinatal outcomes for the population than with no local intrapartum services - If expanded surgical services available: Ability of hospital to meet more community needs 	<ul style="list-style-type: none"> - Very low volume of births limiting midwifery practice - Current regulatory challenges of shared care between physicians and midwives (ex. funding and scope of practice) - Need for mechanism to define roles and responsibilities between midwives, nurses, and PHN's - Recruitment and retention of physicians with specialized skills and midwives - Recruitment and retention of nurses with enhanced skills - Maintenance of maternity skills due to low volume - Transport issues due to inclement weather - Travel time to next cesarean section service - If OR services limited to cesarean-section only: Challenges to sustaining OR (average 5-8 cesarean section annually)
Feasibility Issues		
<ol style="list-style-type: none"> Regulatory Issues <ul style="list-style-type: none"> - Need to reconcile differing scopes of practice between physicians and midwives Professional Issues (see Model A) <ul style="list-style-type: none"> - Need for mutual consultative framework Communication <ul style="list-style-type: none"> - Need for clear structures for sharing patient information - The need for a community of practice to support the midwife (ex. contact with midwives from other rural communities) Funding (see Model A) <ul style="list-style-type: none"> - Midwife could be paid through salaried/contract position – contract position is preferred by MABC - Challenge of cross-billing (ex. midwives billing for physician/patient care) - Feasibility of fee for service billing - Decreased physician remuneration for maternity care due to presence of midwife - Need for a service contract as fee-for-service billing is unsustainable in this model Transport and Travel (see Model A) <ul style="list-style-type: none"> - Cost and time spent for travel to provide outreach to communities on Central Coast Risk management (see Model A) Community issues (see Model A) <ul style="list-style-type: none"> - Good communication with referral community to ensure needs of moms are met (accommodations, access to services, doula support) - Rigorous consultation process with community to determine level of interest in maternity care 		

Model C: Physician-based service with no local access to cesarean section		
Description	Benefits	Challenges
<ul style="list-style-type: none"> - Local maternity services supported by at least 3 FTE physicians all with maternity skills. - On-call maternity nurse rota supported by call-back funding 	<ul style="list-style-type: none"> - Ability to meet the maternity care needs of some women within the community (approx. 30-50%) - Honouring the importance of local birth to Nuxalk peoples and community as a whole - Better perinatal outcomes for the population than with no local intrapartum services 	<ul style="list-style-type: none"> - No local cesarean section back-up - High risk moms must travel to referral communities (ex. Williams Lake) - Retaining physicians comfortable with providing intrapartum care in a low-resource environment - Recruitment of physicians with maternity skills - Recruitment and retention of maternity care nurses - Maintenance of maternity skills due to low volume - Transport issues due to inclement weather - Travel time to nearest cesarean section service
Feasibility Issues		
<ol style="list-style-type: none"> Professional Issues <ul style="list-style-type: none"> - Challenge of recruitment & retention of providers - Attractiveness of positions to providers - Challenge of appropriate coverage for time off call (eg. CME, holidays) - Need for strong and supportive relationship with referral centre obstetrician(s) - Need for locums with maternity skills Funding <ul style="list-style-type: none"> - Cost of CME for maternity skill maintenance for physicians - Cost of CPD for maternity skill maintenance for nurses - Need for incentives to support enhanced skill providers (nurses and doctors; MOCAP/on-call premiums for nurses) Transport and Travel <ul style="list-style-type: none"> - Subsidized travel for women from Bella Bella and Anahaim Lake - Possibility of FNHI funding being allocated to support local services rather than travel subsidy - Seasonal weather challenges to evacuation of women with pregnancy complications Risk management <ul style="list-style-type: none"> - Necessity of having a reliable regionalized perinatal transport system for evacuating women in emergency situations - Quality improvement/assessment programs (MoreOB) - Clear criteria for women who can attempt local birth Community Issues <ul style="list-style-type: none"> - Need for clear community understanding of risks and benefits of local birth - Good communication with referral community to ensure needs of moms are met (accommodations, access to services, doula support) 		

Model D: Midwifery services with no local access to cesarean section		
Description	Benefits	Challenges
<ul style="list-style-type: none"> - Midwives providing primary maternity care to local community (min. 2 midwives) - Expanded role for midwife (ex. well-woman care; sexual education in school) - Pre- and postnatal outreach to Central Coast; no midwifery deliveries outside of Bella Coola due to travel challenges (service contract with UCHS) - On-call maternity nurse rota supported by call-back funding 	<ul style="list-style-type: none"> - Reducing challenges in recruiting physicians - Midwifery care in Bella Coola - Availability of home birth - Midwifery model of care well suited to meet the needs of a high risk/ vulnerable population - Ability to meet the maternity care needs of some women within the community (approx. 30-50%) - Honouring the importance of local birth to Nuxalk peoples and community as a whole - Better perinatal outcomes for the population than with no local intrapartum services 	<ul style="list-style-type: none"> - Onerous on-call responsibilities for midwives - Challenge of attracting midwives to the community - Challenges of low-resource environment for care (home birth) - Very low volume of births limiting midwifery practice - Need for mechanism to define roles and responsibilities between midwives, nurses, and PHN's - No local cesarean section back-up - High risk moms must travel to referral communities (ex. Williams Lake) - Transport issues due to inclement weather - Travel time to nearest cesarean section service
Feasibility Issues		
<ol style="list-style-type: none"> 1. Regulatory Issues <ul style="list-style-type: none"> - Feasibility of practice without reasonable proximity to cesarean section 2. Professional Issues <ul style="list-style-type: none"> - Midwives perform a specialized function and require a certain number of births to maintain satisfaction in practice - Challenge of recruitment & retention of midwives - Attractiveness of positions to midwives - Challenge of appropriate coverage for time off call (eg. CME, holidays) - No locum program for midwives - Need for strong and supportive relationship with referral centre obstetrician(s) 3. Communication <ul style="list-style-type: none"> - Need for clear communicative framework with medical community - The need for a community of practice to support the midwife (ex. contact with midwives from other rural communities) 4. Funding <ul style="list-style-type: none"> - Need for a service contract as fee-for-service billing is unsustainable in this model 5. Transport and Travel (see Model A) <ul style="list-style-type: none"> - Cost and time spent for travel to provide outreach to communities on Central Coast 6. Risk Management <ul style="list-style-type: none"> - Necessity of having a reliable regionalized perinatal transport system for evacuating women in emergency situations 7. Community Issues (see Model B) 		

Model E: No local intrapartum services		
Description	Benefits	Challenges
<ul style="list-style-type: none"> - No local intrapartum services in Bella Coola - Local program for prenatal and postpartum care with evacuation of women at the onset of labour - Care providers trained to take care of precipitous or preterm deliveries 	<ul style="list-style-type: none"> - No need to maintain intrapartum services 	<ul style="list-style-type: none"> - Current evidence suggests worse maternal-newborn outcomes without local maternity care - Significantly increased stress for birthing women and families - Community providers are less prepared to deal with unexpected deliveries (preterm or term) - Moms must travel to referral communities prior to term (ex. Williams Lake) - Not meeting cultural needs of community - Potential for planned, unassisted out-of-hospital births - Transport issues due to inclement weather - Travel time to nearest cesarean section service
Feasibility Issues		
<ul style="list-style-type: none"> - Need to strengthen prenatal and postpartum support groups - Need to work with referral communities to provide continuity of care for women who travel to birth there - Need for risk management strategies to deal with depression, financial expenses, fragmentation of community - Need to strengthen support for breastfeeding and early newborn care - Need to develop a protocol for birth away so that moms have a clear understanding of what their experience will be like - Need to increase travel funding to pay for escorts - Need to improve services in the referral community, including accommodation with kitchens and rooms for other family members and 		

5. RECOMMENDATIONS

A. Inclusive, Community-Based Decision-Making Process

The mode of providing care to parturient women in the Bella Coola Valley must be determined honoring an inclusive, community-based process, which at minimum involves:

1. Band Council Health Committee Chair or designate;
2. Health Centre Director or designate;
3. Designate from the Bella Coola General Hospital medical staff;
4. Community (inclusive of teenagers, birthing women, and elders with attention given to fathers and other men within the community);
5. Bella Coola General Hospital Chief of Nursing;
6. United Church Health Services; and
7. Other key community groups identified by community leaders (e.g. Interagency Committee).

Key components of the decision making process should include:

1. A recognition and honoring of the multiple viewpoints and realities that influence service level expectation and feasibility including the volume of births, population projections, the unique needs of the Nuxalk community, socio-economic indications, and the historical precedent that has been set while also recognizing the unique influence and commitment of the United Church Health Services.
2. Providing a context for the discussions through:
 - (a) An overview of services available in other rural communities across British Columbia with comparable populations, levels of isolation, and socio-cultural characteristics; and
 - (b) An overview of the current health human resource realities of GP Surgery and Midwifery training and practice in British Columbia, including the current number of providers, projections for additional providers, and the current regulatory and legislative challenges that affect practice.
3. A review of the birthing outcomes since the closure of services for women from the Bella Coola Valley regardless of place of delivery.

4. A focus on how to undertake a rigorous, meaningful, and culturally-appropriate process of informed choice and informed consent for whatever birth system is put in place.

It is recommended that this process be facilitated by an external, professional facilitator with a history of working productively with First Nations peoples.

B. Alternative Models to Support Midwifery Practice

If a result of the collaborative decision-making process involves the desire to integrate midwives into Bella Coola's health care delivery environment, midwifery will need to be incorporated into the community in a way that responds to the demographic and cultural characteristics unique to Bella Coola. This will involve:

1. An alternative funding model (Special Service Contract) as the volume of births is not high enough to allow for financial sustainability through a fee-for-service model, and
2. Incorporating additional activities into the midwife's roles and responsibilities, which should be negotiated in conjunction with the individual practitioner(s) recruited and who are currently providing care in the community. The activities may include:
 - a. Sexual and Health Education in the community (including schools);
 - b. Prenatal education classes in a format that incorporates cultural values and practices;
 - c. Outreach to other Central Coast communities for prenatal, post-partum, and well-woman care;
 - d. First surgical assist at caesarean sections;[§]
 - e. Providing well-baby care after three months postpartum and to healthy newborns in general;[§]
 - f. Providing well-woman care after three months postpartum and to healthy women in general, including prescribing contraceptives.**

C. Establish and provide resources for Perinatal Health Council

A perinatal health council with representation from Bella Coola General Hospital medical and nursing staff, the Band Council Health Committee, Health Centre, community, United Church Health Services, and other key community groups identified by community leaders should be established

[§] Recently approved by Health Professions Council for inclusion within Midwives scope of practice.

with the mandate of supporting the care of parturient women from an evidence-based perspective and monitoring outcomes within the context of recognizing existing commitments and the burden of participation of many community members.

D. Ongoing Evaluation of Outcomes

The mode of providing care to parturient women in the Bella Coola Valley should be subject to clear methods for evaluation for the purposes of on-going quality improvement in accordance with regulatory, regional, and provincial standards. Evaluation criteria should be mutually determined by all key stakeholders but at a minimum should include relevant maternal and newborn health indicators as well as population and care provider satisfaction.

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