



# Patients at the Centre: Sustaining Rural Maternity – It's All About the Surgery!

**White Paper**  
November 2016

Putting patients first and fostering healthy rural communities through the collaborative planning, delivery, and evaluation of high-quality rural maternity and surgical services, delivered seamlessly across the continuum in integrated, team-based networks of care

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**Western Provinces  
Collaborative on  
Sustainable Rural  
Maternity and  
Surgical Services**

## **Publication Information**

**© 2016 Perinatal Services BC**

Published November 2016

## **Citation**

Yeates, L. (2016). *Patients at the Centre: Sustaining Rural Maternity – It's All About the Surgery!*  
Vancouver, BC: Perinatal Services BC, Western Provinces Collaborative on Sustainable Rural  
Maternity and Surgical Services.

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## Acknowledgements

The Western Provinces Collaborative on Sustainable Rural Maternity and Surgical Services would not have come together without the early work of Perinatal Services BC’s Rural Maternity Care Stakeholder Working Group and the Specialist Services Committee’s generous support. In 2014, as tasked in British Columbia’s *Primary Maternity Care Plan: Moving Forward Together* (British Columbia Ministry of Health, 2014), Perinatal Services BC engaged a diverse group of stakeholders; including patients, academics, policymakers, community leaders, and healthcare providers in a planning process aimed at identifying strategies for addressing gaps and sustaining health services across the continuum of perinatal care. Supplemented by the additional knowledge and experience of health care leaders from neighbouring provinces, the early work of this initial group became the launch pad for the Western Provinces Collaborative.

To develop this document, a smaller White Paper advisory group participated in the interprovincial consultation process that included development meetings, a workshop, and key informant interviews. Throughout the process, members of the advisory group provided invaluable advice and direction. Particular mention goes to Lorne Daltrop for his early contributions to the White Paper. Gratitude goes to Perinatal Services BC for leadership and support, and to the many health system leaders, researchers, providers, administrators, community participants, and residents who work tirelessly to cultivate the ongoing and necessary relationships that advance rural health services.

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## Definition

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**R***ural Health Service Delivery Networks* are the optimization of existing patterns of care provider referral, triage, and feedback between rural, regional, and tertiary sites to support optimal patient care. They are built on natural geographic population catchments that reflect established referral patterns and assume regional oversight to ensure that location of care matches clinical need with available resources and capacity. The guiding objectives of Rural Health Service Delivery Networks are to facilitate a decentralized model of patient care within the mandate of 'closer to home.' Within networked models, rural surgical and obstetrical programs become outreach extensions of core referral hospital surgical programs with the organization of services respecting the sustainability of both the regional programs and the rural programs. This mechanism facilitates robust and collaborative continuous quality improvement and continuing professional development. Networks are underscored by collaboration and trust between all players involved and require facilitation and leadership by trusted stakeholders.

(J. Kornelsen, personal communication, September 8, 2016)

## Executive Summary

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*Integrated interprofessional rural health service delivery networks are poised to deliver optimal care to rural residents, while improving both patient and provider experience and satisfaction, within a cost-effective framework.*

In 2002, regarding access to health care, Health Canada's Special Advisor on Rural Health described the increasingly dire circumstances facing rural Canadians by saying "if there is two-tiered medicine in Canada, it's not rich and poor, it's urban versus rural" (Laurent, 2002). Rural residents have the lowest level of disability free lifespan of any Canadians and lower health status than their urban counterparts (Laurent, 2002). Just as we have witnessed a dramatic decline in the number of small volume rural maternity and surgical programs over the last two decades; additional rural hospital closures, the centralization of health services, and the narrowing scope of the rural generalist physician have eminently affected rural residents. The need for a system wide solution that effectively curbs and then reverses the downgrading and loss of rural maternity and surgical services has become critical.

Rural health service delivery networks have been promoted as an effective and efficient way to improve the quality and sustainability of rural maternity and surgical services. While a renewed interest in rural generalism and general practitioners with enhanced surgical skills is growing, the number of formalized rural networks across the Western provinces remains small. Prioritizing and enabling the development of rural health service delivery networks will enable the provision of sustainable, safe, and high-quality maternity and surgical programs in rural communities. Although this solution is not a panacea that will instantly fix every pressing issue related to the provision of rural health services, it does address the root of this problem with an integrated system of networked rural surgical and obstetric service delivery that formalizes, optimizes, and potentially expands existing referral systems. Rural populations will benefit from improved access to care, including maternity services, and the provision of surgical, trauma, emergency, procedural, preventative, and recovery services as close to home as possible.

Our rural health system faces increasingly complex challenges that demand innovative solutions. At the same time, health planners and policymakers must make transparent, economically viable, and population sensitive decisions amongst competing social, political, and financial priorities (Grzybowski, Kornelsen & Schuurman, 2009). However, without *urgent* improvements in rural maternity and surgical service delivery, rural populations will continue to be affected by ever increasing barriers to accessible care and worsening social determinants of health.

As rural communities are highly context-specific, one single solution can not be put forward as a model for improved performance. Instead, several shared characteristics have been identified as key enablers for the development of sustainable rural health service delivery networks.

Distributive rural health service networks that are staffed by interprofessional teams of skilled, supported, and motivated providers, and are operated within a financially inclusive, sustainable, and equitable health system will safely deliver appropriate, local, needs-based and patient-centred care to rural residents.

While continuing to build on the extraordinary collaborations and commitments made between key stakeholders, as well as work already completed, this white paper aims to present a strategic vision and provide a resource for developing and sustaining robust networks of rural health services.

Threaded throughout this White Paper, key themes of the strategic vision include:

**The purposeful upstream and downstream alignment of providers and services:**

- A distributive network of rural maternity and surgical services requires the purposeful upstream and downstream alignment of providers and services working together to achieve the goals of the network. The collaborative alignment of providers is built on generative and trusting relationships, nested within a community of practice that includes interdisciplinary colleagues (physicians, midwives, nurses, and others), mentors, and teachers from across and within disciplines (Kornelsen, Iglesias & Woollard, 2016; Kornelsen & Friesen, 2016).

**The local delivery of rural health services is part of a cohesive system of regional programs:**

- Rural networks position the local delivery of surgical and maternity services within an integrated, horizontal, and non-hierarchical system of regional programs, instead of situating them as stand-alone institutional services. Rural operating rooms will become part of a mutually respectful, interdisciplinary network designed to provide care to patients in the facility closest to their residence, while respecting complexity, the patient's holistic risk status, and the availability of appropriately skilled providers and emergency transport services, when such transport is necessary (Iglesias et al., 2015).

**The planning of rural networks is based on geographic catchment and population need:**

- Rural health service delivery networks must be developed along geographic catchments, be responsive to local population needs, and be built with the active and continuous engagement and involvement of key stakeholders in the "pentagram partnership," using

a social accountability and asset-based framework (Woollard, 2006). The pentagram partners non-hierarchically include health administrators, policy makers, communities and patients, academics and researchers, and health professionals, who together assume collective responsibility and accountability for health service planning, delivery, and evaluation. It is the function of the rural health network to meet population health needs across its geography by enabling the delivery of optimal health services in rural communities and by maintaining appropriate triage throughout the network when rural residents need additional care (Kornelsen & Friesen, 2016; Woollard, 2006).

**The promotion of a transdisciplinary culture of lifelong learning and quality improvement:**

- Continuous quality improvement (CQI) and an embedded culture of lifelong learning anchors the provision of safe, effective, and high-quality care in rural networks. Ideally, CQI is part of an integrated and interdisciplinary quality program developed across the network, which recognizes that quality and safety are impacted by context, team, and system issues, rather than the skill or competence of any one individual.

**The development of a competency-based curriculum to train and support rural providers:**

- To reestablish the role and function of the rural generalist provider, access to relevant education, training, certification, and interdisciplinary continuous professional development must be delivered through the intercollegiate coordination, support, and delivery of a competency-based curriculum (Iglesias et al., 2015).



## Introduction

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Across Canada, the growing attrition of small volume rural maternity and surgical services has generated substantial concern and sparked renewed urgency in recent years. Our rural populations living in affected communities face increased barriers to accessing care and worsened social determinants of health. The lack of available surgical providers and the challenge of providing operative delivery in rural communities is not an isolated issue to Canada and has been identified internationally as a primary contributor to decreased access to rural maternity services (Kornelsen et al., 2014). At the same time, local and international research demonstrates that adverse perinatal outcomes increase proportionately with the distance women must travel during labour (Gryzbowski, Stoll & Kornelsen, 2011; Ravelli et al., 2011). In Canada, these consequences disproportionately affect our First Nations, Métis and Inuit peoples, who already represent some of our country's sickest, poorest and most vulnerable populations.

The tide of eroding rural maternity and surgical services must be curtailed. The need for a solution is unquestionable, and care providers, administrators, academics, and rural residents are answering the call to action with an evolving body of research, evidence, and literature aimed at informing health policy and planning. It is time to ensure that multi-disciplinary networks of well-trained providers are available to provide local, safe, effective, and high-quality surgical and obstetric services for rural populations. Beyond equity in access, networked rural maternity and surgical service teams enhance local medical capabilities, and ensure critical care, emergency, and trauma response services are sustainable (Iglesias et al., 2015). At the same time, distributive health service delivery networks increase a community's capacity to recruit rural providers and they stimulate rural health services education, research, and training (Iglesias et al., 2015).

*Access to stable health care is so important for people who live in rural communities. We are losing our doctors because they are so busy and over-booked that they leave to go and work where it is easier for them. When doctors come and go so much, it leaves gaps in care, things don't get followed up and fall through the cracks. Someone has to figure out how to support them so they will stay in our community.*  
A. Miller, East Kootenay, BC

The *Joint Position Paper on Rural Surgery and Operative Delivery* (2015) with its cross-professional endorsement from the Society of Obstetricians and Gynecologists of Canada (SOGC), the College of Family Physicians of Canada (CFPC), the Canadian Association of General Surgeons (CAGS), and the Society of Rural Physicians of Canada (SRPC), presents a practical framework for the provision of safe, high-quality perinatal and surgical services in rural communities. Nested in an integrated "Five Pillar" multidisciplinary strategy to build rural surgical capacity, called the Five Pillars for a National Strategy, this framework includes quality measures to support women giving birth safely in their local communities (Iglesias & Woollard, 2015; Blake,

2016). A recent review of international literature supports the recommendation that a networked system of specialist-generalist care provided through rural health service delivery networks, the 5<sup>th</sup> pillar of the multidisciplinary strategy, is the most effective way to develop and maintain the infrastructure needed to effectively provide local surgical and obstetric services for rural residents (Kornelsen et al., 2014).

Following a contextual review of the Five Pillars for a National Strategy, this White Paper focuses on the fifth pillar; Networks of Care and Communities of Practice. It is presented by the Western Provinces Collaborative on Sustaining Rural Maternity and Surgical Services. Assembled in 2015, this multidisciplinary stakeholder collaborative, with members from Saskatchewan, Alberta, and British Columbia continues to work across provincial boundaries to develop strategies and initiatives that drive feasible and sustainable long-term solutions for rural health service delivery networks. Still, much remains to be done to move the Five Pillar Strategy into action and to generate meaningful impact in rural communities. Beyond the unprecedented momentum and collaborative commitments championed by professional organizations, the alignment of all partners, including policymakers, health care providers, local administrators, and community advocates is essential for building robust health service delivery networks and achieving sustainable change.

## Background

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Two decades of increasing subspecialization in general surgery alongside the narrowing surgical scope of the rural generalist physician have contributed to the precipitous attrition of small, rural maternity programs and the diminished provision of surgical services to rural Canadians (Iglesias et al., 2015). Rural residents are traveling ever increasing distances for care, despite a growing body of literature and best practice that suggests planning and providing rural residents with care close to home results in better health and psychosocial outcomes (Kornelsen, Moola & Grzybowski, 2009; Ravelli et al., 2011). Although this work is increasingly acknowledged at both national and provincial health planning and organizational levels and it is reflected in ministerial reports, consensus statements, and professional position statements, rural residents have yet to experience significant improvement. Spurred by the ongoing presence of impending crises in rural communities across Canada, and the expectation of additional service closures, it is agreed that the *urgent* need for action to curb and then reverse the downgrading and loss of rural maternity and surgical services has become critical.

### The Lynchpin: Rural Surgical and Rural Maternity Services Are Interdependent

The relationship between the provision of local maternity services and a rural surgical program has historically been overlooked and is now understood to be the crucial lynchpin that will enable the return of sustainable maternity and surgical programs to rural communities. As a natural experiment, outcomes from two decades of rural health service closures have led researchers to recognize the essential interdependence between rural surgical programs, operative delivery, and maternity care services (Kornelsen, Iglesias & Woollard, 2016a). Specifically, it has been observed that local efforts to provide a stand-alone cesarean section service following the closure of a local rural surgical program will typically fail (Kornelsen, Iglesias & Woollard, 2016a). In most, if not all cases, this occurs because the small surgical volume that results from performing only occasional cesarean sections is neither sufficient nor realistic to retain the necessary nursing, anaesthesia, and surgical staff to operate the stand-alone operative delivery service (Kornelsen et al., 2016a).

At the same time, the presence of a robust rural maternity program positively impacts the local surgical practice of General Practitioners with Enhanced Surgical Skills (GPSS) by providing the additional surgical volume needed to appropriately sustain a rural surgical service, and further illustrates the essential interdependence between rural maternity and rural surgical services. Although operative delivery is not critical to the site-specific provision of rural maternity care, a formalized rural surgical service that includes operative delivery is necessary to support and sustain the rural maternity program distributed across a rural health service delivery network

(Kornelsen & McCartney, 2015). Prioritizing the integrated, co-development of rural surgical and maternity programs, nested within robust rural health service delivery networks, will contribute to fulfilling the mandate of 'closer to home' for maternity care (Kornelsen, Iglesias & Woollard, 2016b).

## Centralization: The Unintended Consequence

In recent decades, a shift in the demographic of rural populations towards urban centres, along with the increased sub-specialization of medical practice, the rise of technological innovation, a political drive to curb increasing health care costs, and dwindling support for rural physicians have all contributed to centralizing health service delivery. Although the road to centralization was paved with the positive intent of enhancing patient flow, increasing efficiency, improving quality, and consolidating resources, an unintended outcome was its detrimental impact on rural health infrastructure and the equitable delivery of essential health services to rural residents. Health service centralization has resulted in an increasingly maldistributed health care workforce that has eroded the scope of practice of rural generalist physicians and nurses, while leaving in its wake a dearth of rural training and mentoring opportunities for new learners. Taken together and under the passage of time, the move to concentrate health services in urban and near urban areas has threatened the sustainability of crucial emergency, acute, and primary care services in many rural communities. In addition, increasing numbers of rural communities have lost their essential maternity and surgical services altogether, leaving residents without access to even basic primary, procedural, and diagnostic care. This has most notably affected Canada's Indigenous populations, where many Aboriginal, Métis, and Inuit women no longer have the ability to give birth on ancestral lands, in ways that honour their traditional values, knowledge and birthing practices. For Indigenous women and families, a community level investment in maternal and infant health and well-being is foundational to social well-being and cultural continuity.

## Holistic Cost and Holistic Risk

Part of the challenge in assessing and planning for distributed rural health services lies in the existing data-driven approach to assessment that focuses only on financial measures such as staffing and facility costs, while linking them exclusively to pathology based clinical indicators (Grzybowski & Kornelsen, 2013). This process ignores the many holistic costs and risks that impact rural families and communities. A holistic assessment of cost and risk requires adding an inclusive, patient-centred, and experience-based evaluation to the assessment process. As articulated in *Honouring the Truth, Reconciling for the Future: Summary of the Final Report of the Truth and Reconciliation Commission of Canada* (2015), the significance of holistic assessment

cannot be overstated when planning and delivering health services that will “recognize, respect, and address the distinct health needs” of Aboriginal, Métis, and Inuit peoples across Canada, many of whom are rural residents (p. 322).

Rural residents, many of whom already struggle financially, will lose income from extended work absences and will incur travel, accommodation, and childcare costs when they must leave home to access primary health care services. These costs are compounded when residents must travel for basic procedural and diagnostic care that can safely be delivered in rural settings. For communities, losing rural providers weakens confidence in the safety and stability of local health services, and may eventually erode the community’s economic and social fabric when ancillary services and local businesses become less likely to invest or to remain in the region.

*I have seen many of my siblings, nieces, and nephews experience a lack of coordination between here any type of specialist. This makes it very difficult if there are no buses, planes, or trains for those who do not have personal vehicles. I think they forget about the fact there is very little employment to be able to afford a personal vehicle and therefore our people get lost in the system. My brother was sent to see a specialist and the specialist sent him back to the family doctor and the family doctor said 'I can't do that.' It was like they didn't know what to do with him. Where is the equitable access to health care everyone is talking about?*

B. Saul, Statimc Nation, Lillooet, BC

Holistically evaluating risk means not only looking at acute clinical risk and pathology based outcomes but also assessing the impacts of providing less than optimal levels of local health services for rural residents.

Grzybowski, Stoll, and Kornelsen (2011) report that rural women who must travel to access maternity care will experience increased rates of adverse perinatal outcomes

proportionate to the distance they travel. Some of these women, to avoid leaving their homes and families, are choosing to present for care too late in labour to travel out of their communities and instead deliver in inadequately resourced environments (Grzybowski et al., 2011). At the same time, the social isolation experienced by rural residents who must, with increasing frequency, leave their family and support systems to access health services adversely impacts their mental and emotional well-being and contributes to deteriorating psychosocial health across rural Canada.

## **Rural Networks: A Natural Backbone for Distributive Rural Health Services**

After an almost inadvertent degree of health service centralization and with a holistic view of its deleterious impact on rural communities, families, and residents, the current lack of access to community-based primary care represents a lost opportunity for upstream interventions that can both improve the quality of life of rural populations and prevent costly hospitalizations. With increasing numbers of rural communities in crisis and those already precariously teetering on the

edge of sustainability, the need for an adaptive, system-wide, interdisciplinary, collaborative solution is paramount.

Many prominent medical organizations in Canada, including the Canadian College of Family Physicians (CCFP), the Society of Rural Physicians of Canada (SRPC), the Canadian Association of General Surgery (CAGS) and the Society of Obstetricians and Gynecologists of Canada (SOGC), are recommending and supporting the implementation of rural health service delivery networks as part of a new strategic vision for the provision of safe and sustainable rural maternity and surgical services. The work which led to the development of the Five Pillars for a National Strategy was initiated when the executive leadership of these four organizations came together in 2012 and formed the National Working Group for General Practitioners with Enhanced Surgical Skills (National GPESS Working Group). Advanced nationally through meetings held in Banff in 2014 and 2016, in Montreal in 2015, and alongside the formation of the Western Provinces Collaborative on Sustaining Rural Maternity and Surgical Services, the Five Pillars for a National Strategy presents an integrated plan to deliver and sustain safe, effective, and high quality maternity and surgical services in rural and remote communities.

Rural health service delivery networks provide an essential and natural backbone for the Five Pillars for a National Strategy. The necessity of integrated, interprofessional networks threads through each pillar. Although health service and transport networks are not new constructs, the purpose of focusing on the efficacy of networks as a rural health services solution is to formalize them in a defined structure, with greater engagement and accountability at the local level, while also providing an investment in infrastructure and resources that will enable their growth and development (Kornelsen & Friesen, 2016). Formalizing rural health service delivery networks will result in highly optimized and integrated rural surgical, obstetric, and urgent care programs that are supported by referral and regional centres to build professional capacity and confidence, competence, and currency in practice (Iglesias et al., 2015). Immediately, by accessing leveraged resources, rural health service delivery networks increase capacity for appropriate procedural care in smaller communities and thereby reduce pressure on tertiary surgical programs. At the same time, and perhaps most significantly, rural populations benefit from improved access to care, including maternity services, and the provision of preventative, upstream, and recovery services as close to home as possible (Iglesias et al., 2015).

## The Five Pillars for a National Strategy

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In 2012, the National GPESS Working Group developed the Five Pillars for a National Strategy to reestablish the role and centrality of rural generalist surgeons and general practitioners with enhanced surgical skills (GPESS) to the delivery of rural health services across Canada. Historically, the needs of rural communities were met by generalist providers with a well-developed, broad set of skills, added competencies, and an expanded scope of practice suited to low volume environments (Iglesias et al., 2015). Rigorous evidence from Canada and abroad points to the effectiveness and safety of rural generalist practice, including the provision of surgical services for low complexity procedures, as well as the attendant cost savings it evokes (Grzybowski, Stoll & Kornelsen, 2013; Pashen et al., 2007; Iglesias et al., 2015). Despite this, rural generalism has declined and scope of practice has diminished, impacting the availability of surgical services in rural communities, and fueling the closure of rural maternity services.

The role and function of the rural generalist provider can only be re-established if access to relevant education, training, and ongoing professional development is delivered through the intercollegiate coordination and support of a competency-based curriculum. The sustainable rural practice environment is dependent on cultivating providers' linked and inter-reliant professional and personal relationships through interdisciplinary local and distant collaborations, training networks, referral networks, and communities of practice. At the same time, to succeed, rural networks must have an embedded culture of continuous quality improvement and an evidence-informed credentialing process that is built on the foundational principles of team competency and patient safety (Iglesias et al., 2015). The nationally-endorsed Five Pillars for a National Strategy uncovers the interdependencies between these five priority areas and provides the framework that is critical to building and sustaining a robust, interconnected system of rural health care. Work is underway, nationally and provincially, for each of the five pillars. A contextual overview of the Five Pillar Strategy is provided in this paper.

### College of Family Physicians of Canada's Community of Practice – Pillar One

To date, work on the Five Pillars for a National Strategy has been informally coordinated through the network of organizations and advocates that make up the National GPESS Working Group. Looking ahead to providing sustainable rural health services for Canadians, it is evident that a formalized and coordinated national community of practice for GPESS is necessary to support and sustain the practice of rural generalism. At the pinnacle of networks, a national GPESS community of practice is a key enabler for cultivating interprofessional relationships, ongoing conversations, and shared strategies to support rural generalism across the country. The College of Family Physicians of Canada (CFPC) is the formal organization accountable for

accreditation and certification of family practice programs and physicians and has recently recognized GPESS as a community of practice, in the same manner that General Practice Anaesthesia and Emergency Medicine have become established communities of practice. At the same time, providing trained and qualified physicians with a Certificate of Added Competence in ESS from the CFPC will enable rural physicians to acquire formal credentials for procedural skills outside their standard scope of practice, and it will standardize the accreditation of GPESS across Canada. Most recently, at the National Summit on Rural Surgery and Operative Delivery held in Banff, Alberta in January 2016, a commitment to collaborate on developing national training standards and accreditation for Enhanced Surgical Skills (ESS) programs was made by the CFPC and the Royal College of Physicians and Surgeons of Canada (RCPS).

## **A Competency Based Curriculum – Pillar Two**

Intricately connected to the development of a national standard for training and accreditation of ESS programs is the creation of a national ESS competency-based curriculum to prepare rural generalist physicians, and to geographically align educational opportunities with the provision of rural health services. At present, the University of Saskatchewan at Prince Albert is the only site in Canada providing ESS training. The 12-month postgraduate program accepts only two trainees per year, which accentuates the urgent attention needed to build program infrastructure and to increase the availability of both clinical preceptors and teaching sites.

The Curriculum Committee of the National ESS Working Group is developing the framework for a generic training and evaluation program for ESS that will be suitable for introduction at any of Canada’s medical schools (Caron, 2015). It is intended to be one possible pathway to a certificate of added competence for ESS. The curriculum framework is based on key recommendations including the development of a core curriculum of entry level competencies shared by all ESS graduates, the education of a mobile workforce of GPESS with a generic portable skill set, and a selection of procedural skills based on evidence obtained from ESS trained physicians serving appropriate populations, in adequately resourced settings (Caron, 2015). Notwithstanding the generic entry level ESS curriculum, developing site-specific programs to support the continuing professional development of ESS trained physicians is proposed as a key enabler of rural workforce sustainability that integrates with the other pillars of the Five Pillars for a National Strategy.

## **Joint Position Paper on Rural Surgery and Operative Delivery – Pillar Three**

Published in December 2015, in the Canadian Journal of Rural Medicine, the *Joint Position Paper on Rural Surgery and Operative Delivery* is remarkable for its cross-professional endorsement by



the Society of Obstetricians and Gynecologists of Canada (SOGC), the College of Family Physicians of Canada (CFPC), the Canadian Association of General Surgeons (CAGS), and the Society of Rural Physicians of Canada (SRPC) and for the tangible framework for delivering surgical services to rural communities that it presents (Kornelsen & Friesen, 2016). The framework depicted in the Joint Position Paper is based on a number of core principles which underscore the relationships and planning between rural, regional, and tertiary settings needed to established rural health service delivery networks (Kornelsen & Friesen, 2016). Specifically, the network model horizontally positions surgical care in regional rather than institutional programs, where rural operating rooms become a non-hierarchical, operational extension of referral hospital programs, and procedural care is provided by an integrated and balanced team of local surgical providers and outreach surgeons from referral facilities (Iglesias et al., 2015). Patients receive surgical care in the operative facility closest to their residence, respecting the complexity of the procedure, the patient's risk status, and the availability of surgical providers with procedural competency (Iglesias et al., 2015).

## **Credentialing, Privileging, and Continuous Quality Improvement – Pillar Four**

To ensure rural health service delivery networks are effective, and the rural health care workforce is adaptive to meet population needs, establishing provincial portability for credentialing and privileging is crucial. This may be the most challenging pillar for enabling sustainable rural maternity and surgical services across the three Western provinces, and across Canada. In rural environments, many surgical skill sets are shared by a number of generalist disciplines. For example, generalist surgeons may perform caesarean sections, some obstetricians may perform appendectomies, and some GPESS may perform endoscopic surgeries (Iglesias et al., 2015). Credentials for these procedures come in different forms, including a future certificate of added competence, individualized training for specific procedures, and through other specialized or site-specific training programs (Iglesias et al., 2015). Across all of these, the underlying expectation is that verifiable evidence will demonstrate the provider has acquired the necessary training and competence to perform the procedure safely and successfully (Iglesias et al., 2015). For experienced rural ESS physicians, clinical privileging should reflect the training, education, and accumulated clinical experience of the provider, including the measurement of risk-adjusted outcomes (Iglesias et al., 2015).

Continuous quality improvement (CQI) and an embedded culture of lifelong learning anchors the provision of safe, effective, and high-quality care across rural health service delivery networks. The purpose of CQI is to continuously improve delivered services while supporting the clinicians who provide them. CQI is inherently non-punitive and must be grounded in critical self-reflection, self-assessment, peer review, and an appraisal and feedback process that fosters

continuous improvement in both individual and team performances. To be effective, CQI must be part of an integrated, interdisciplinary quality program that recognizes quality and safety are impacted by context, team, and system issues, rather than the skill or competence of one individual. Across a rural health service delivery network, a robust CQI program enables a regional, but importantly non-hierarchical, planning infrastructure for designated procedures and associated clinical services, and it positively affects the sustainability of adjacent health services, including maternity, emergency, and trauma care (Iglesias et al., 2015).

## **Integrated Networks of Care and Communities of Practice – Pillar Five**

Integrated, interprofessional rural health service delivery networks and communities of practice are the essential backbone of the framework for successfully delivering sustainable rural maternity and surgical services to rural residents. The need for integrated, interprofessional rural health service delivery networks threads through each pillar of the national strategy. Health service networks are not new constructs and typically, to meet higher level of care needs, networks have enabled the patient journey from primary and community care to secondary and tertiary services, then back again (Kornelsen & Friesen, 2016). For rural communities across Canada, informal networks have been essential for local sustainability and professional support (Kornelsen & Friesen, 2016).

At present, a small number of innovative professional networks and informal communities of practice do exist. Born out of the passion of a select number of dedicated providers and built on intentionally cultivated relationships, these informal networks receive little in terms of coordinated or systemic support. As an integral part of the solution to the effective delivery of rural health services, the focus on network efficacy is situated on formalizing and optimizing naturally occurring networks while simultaneously supporting and growing them through an enabling infrastructure and dedicated resource allocation (Kornelsen & Friesen, 2016).

## Healthier Rural Communities: Benefits of Rural Health Service Delivery Networks

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Nationally and internationally, intentional rural health service delivery networks are emerging as the solution that will curb the attrition of rural health services. Rural surgical and maternity networks formalize the interprofessional relationships between rural health service sites and secondary and tertiary referral centres. They provide an essential anchor for efficient and sustainable distributed rural surgical, maternity, and urgent care programs. Structured around a range of procedural options based on provider and institutional capacity, as well as population needs, the delivery of rural surgical programs should be nested in a network of providers and organizations linked through professional and personal relationships, training pathways, referral pathways, partnerships, and practice collaborations. Within a culture of safety, continuous quality improvement, and patient- and community-centredness, members of the interprofessional network engage in continuing professional development, quality improvement, and advocacy for and with communities to achieve optimal health outcomes and improve the quality of care provided across the continuum. Rural health service delivery networks will positively impact rural residents needing maternity and surgical care, and they will enhance the local, patient-centred treatment of episodic trauma and acute disease.

Developing a robust rural health service delivery network will bring an immediate and significant increase to regional capacity, in both the centre and the periphery, by operationalizing the many underutilized, fully accredited operating rooms that exist in rural communities across Canada

*I know it's not realistic to have every kind of health care service in our small town, but we have to have enough here to meet people's basic needs. We don't even have that right now [...] then we can travel to other places for more complicated things or procedures that require high-level specialists.*

B. Sansregret, Consort, AB

(Iglesias et al., 2015). On the platform of a rural surgical network, attended by a supported workforce of GPESS with a portable procedural skill set, enabling this unused capacity will advance the larger health system objectives of increased surgical access and shorter wait times, within a patient-centred, closer to home approach. By improving service access and utilization for marginalized rural populations across the network, an optimal distribution of clinical and procedural activity within the network can be

achieved (Iglesias et al., 2015). With the growing concern over long surgical wait times in secondary and tertiary facilities, cultivating rural surgical networks will be a valuable approach to improving system capacity, efficiency, and reducing wait times by moving lower complexity procedures to peripheral service sites.

At the same time, a salubrious rural surgical network will be foundational to the growth of related networks, particularly maternity care, but also to trauma, emergency services, first

responder, and transport networks. Effective rural health service delivery networks enable the provision of preventative, upstream, and postoperative recovery services as close to home as possible for rural residents, thereby also reducing strain and pressure on secondary and tertiary centres that are already at or near capacity. In addition, formally integrating surgical providers across a network will lessen the risk of gaps in continuity that are often associated with health care transitions between facilities and levels of service (Iglesias et al., 2015). Furthermore, effective interprofessional networks will supply communities with surgical and anesthetic first responder teams that can handle a variety of emergencies and traumas requiring immediate intervention. On a broader horizon, it is predicted that a distributive system of rural surgical care embedded within and across rural health service delivery networks will serve to reduce long-term morbidity and improve life expectancy in vulnerable rural populations (Grzybowski et al., 2011; Iglesias et al., 2015).

Rural health service delivery networks are not only the lynchpin for sustainable maternity, surgical, and urgent care services; they will enhance the economic and social fabric of rural communities (Iglesias et al., 2015). Alongside patients, providers and communities are all rewarded for the effort required to make networks work. Providers derive satisfaction from delivering comprehensive, high-quality procedural care and by learning from and with other professionals across their network (Beasley et al., 2012). At the same time, the generative personal and professional relationships which underscore successful networks will improve interprofessional communication, foster mutual respect, support a culture of continuous quality improvement and lifelong learning, and substantially decrease the professional isolation that threatens the longevity of many rural providers. The ability to share patient caseload and on-call responsibilities with other providers across a collaborative network will result in improved work-life integration. Taken together, the practical and social benefits of rural health service delivery networks will increase job satisfaction and contribute to the procurement and retention of a sustainable rural health care workforce (Peterson, 2007). Rural communities will also realize social and economic gains from rural health service delivery networks, given that incipient providers have shown they are attracted to interdisciplinary, collaborative practice models. Having local surgical and maternity services embedded in a supportive professional network will serve as an incentive for bringing new providers and their families to rural communities (Price, 2005).

## Planning for Success: Developing Rural Health Service Delivery Networks

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Planning for the effective, equitable, and sustainable delivery of health services is complex. Given the increasing health disparity between rural and urban populations, it has become apparent that monolithic solutions no longer serve the diverse needs of rural populations across the country. In times of rapid social, technological, and environmental change, longer-term outcomes and ongoing service closures indicate that narrow solutions are failing to sustainably deliver health services to rural residents. Fortunately, rather than giving up or persisting with designs that seem to perpetuate the problems, new ways to frame the issues and innovative approaches for addressing them are emerging. To meet the needs of rural residents through holistic leaps of innovation, forward-focused rural health service planning must be grounded in a collaborative, socially accountable, transdisciplinary approach that draws on collective intellectual and social capital, that inherently values the contributions of all disciplines and stakeholders, and in order to succeed, is enabled by appropriate and equitable resource allocation (Brown, Harris & Russell, 2010).

The Five Pillars for a National Strategy presents a tangible, high-level framework for moving ahead with reestablishing the role and centrality of rural generalist surgeons and general practitioners with enhanced surgical skills (GPESS) to the delivery of rural health services across Canada. Just as effective rural health service delivery networks are rooted in the development of generative up- and downstream relationships, the same holds true for effective health system planning. Responsibility for system planning lands at the national, interprovincial, provincial, sub-provincial, and local levels and work at each of these levels cannot exist in isolation. Formalized rural health service delivery networks require collaborative leadership, an appreciative approach that focuses on strengths, form to follow function, and local implementation, evaluation, and adaptation to meet the needs of diverse communities and rural populations.

A successful rural health services delivery network is inherently contingent on cultivating intentional, authentic, and productive interprofessional relationships among care providers across all levels of the health care system. Within a formal, defined network structure, that is horizontally integrated across geography and levels of care, each rural provider, whether generalist or specialist must be nested within a supportive community of practice (Iglesias et al., 2015). These communities of practice must include the provider's colleagues, both upstream and downstream, their mentors and teachers, and those who accept patient referrals and transfers of care (Iglesias et al., 2016). In addition, the professions and adjacent services on which the rural surgical and maternity programs rely, including anaesthesia, nursing, obstetrics and midwifery,

diagnostic imaging, laboratory medicine, and transportation, must be included in planning and sustaining the rural health services delivery network (Iglesias et al., 2015). Rural health service delivery networks serve to geographically align educational opportunities with the provision of rural health services and form the platform for system-wide interdisciplinary continuous quality improvement and continuing professional development activities (Iglesias et al., 2015). By enabling the adaptation of procedural skills used routinely in one clinical situation to the performance of similar procedures done less frequently, this necessary alignment supports interdisciplinary mentoring as well as interprofessional cross-training to enhance competency.

It is important that rural health service delivery networks be collaboratively organized from a regional perspective to ensure an intentional and integrated planning approach is used to determine the scope of practice and resources required for each rural site (Kornelsen & Friesen, 2016). Integral to the regional perspective is the understanding that rural health service delivery networks must be designed around geographic boundaries to meet the needs of the entire population within the network's catchment (Kornelsen & Friesen, 2016). When surgical care is positioned as a regional phenomenon, smaller surgical sites are operated as horizontal, non-hierarchical extensions of referral hospitals that can provide safe, high-quality surgical services through an integrated and balanced team of both outreach surgeons and local providers (Iglesias et al., 2015). At the same time, safe and effective rural health service delivery networks should be built on functional and formally organized referral patterns to specialist and sub-specialist services according to patient risk or need and will be enabled by an efficient patient transport system for acute and sub-acute cases (Iglesias et al., 2016). This integrated development of networks and collaborative support for rural sites by referral and regional centres will naturally enhance professional capacity, confidence, competence, and practice currency across the spectrum of rural providers (Iglesias et al., 2016).

*I see too many families from rural communities making long drives during labour to get to urban centres. Dark nights, especially with icy roads in winter, and a stressed out driver, are not safe places for labouring women.*  
A. Evans, Regina, SK

From the ground up, formalizing the structure of any rural network must be done within a social accountability framework centred on population need (Kornelsen & Friesen, 2016; Woollard, 2006). This framework non-hierarchically engages the pentagram partners of health professionals, health administrators, policy makers, academic institutions, and communities in the organization of the network (Kornelsen & Friesen, 2016; Woollard, 2006). At the same time, onsite leadership from a mutually respected professional is essential for engendering trust and credibility (Kornelsen & Friesen, 2016). Working across disciplines and professions, the adaptive leader in this key role must be able to cultivate a shared sense of commonality, develop cohesiveness of purpose, and foster the capacity for innovation and change while supporting the tasks and responsibilities of networked providers. Last, a capital investment, proportionate to

the needs of each network is necessary to develop required infrastructure, provide for adequate administration, and cover health provider costs (Kornelsen & Friesen, 2016).

Laying the foundation for effective planning of rural health service delivery networks must begin with a shared ownership of the problem, which lies far outside the boundaries of rural communities. Every stakeholder encountered along the continuum of service planning and delivery, including health care professionals and academics, administrators, policymakers, community partners, and patients should not merely be engaged as consultants, but rather as partners throughout the process. At the same time, taking an innovative approach to solving complex problems requires a degree of stakeholder stability and a shared commitment to ongoing and sustained efforts through iterative cycles of planning, action, evaluation, and adaptation. Everything will flow from the commitment to participate, in cooperative and collaborative relationship, with integrity, honesty, and mutual respect.

## Conclusion

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Most health system challenges cannot be solved with a quick technical fix. In today's complex environments, effective system change requires more than identifying the issue and instituting a call to action; it entails looking beyond the issue to develop adaptive solutions that get right at the heart of the problem. Over the last two decades, we have witnessed a dramatic decline in the number of small volume rural maternity and surgical programs across the country. The lack of availability of rural surgical providers and the challenge of providing operative delivery services was precipitated by an increasing subspecialization in general surgery, the narrowing scope of the rural generalist physician, and the subsequent closures of small hospitals in rural communities. This is a sharp contrast to early 1970's when family physicians were taught to perform low complexity surgical procedures as part of their entry level medical training, and procedural care was routinely provided in rural communities. The centralization of health services through the 1980's and 1990's, which concentrated infrastructure and health human resources in urban environments, hastened the attrition of rural health services. Across Canada, First Nations, Métis, and Inuit peoples, already some of our country's sickest, poorest, and most vulnerable populations, are disproportionately affected by the decline of rural health programs. The need for a system-wide solution that effectively curbs and then reverses the downgrading and loss of rural maternity and surgical services has become critical.

Rural health service delivery networks and communities of practice have been promoted as an effective and efficient way to improve the quality and sustainability of rural maternity and surgical services. While a renewed interest in generalism and ESS is growing, the proportion of formalized and adequately resourced rural surgical networks across the Western provinces

*For our women who live in rural communities - not by choice but by the nature of who we are as First Nations people who live in rural communities - we feel it is very important to deliver our sacred gifts as close to home as possible. This lets the baby know their identity which is very important spiritually, emotionally, physically, and mentally. It also gives the mom a feeling of safeness, being close to home, and that she doesn't have to worry about her other family members at home.*

L. Barney, RN, MSN, Titqet Nation, BC, Perinatal Specialist, First Nations Health Authority

remains small. Prioritizing the development of rural health service delivery networks and communities of practice will enable the distribution of sustainable, safe, and high-quality maternity, surgical, and urgent care services in rural communities. Rural health service delivery networks have been shown to increase access to care, to improve the quality of care delivered, to increase provider satisfaction and retention, and to promote patient-centred care that is responsive to the needs of communities. While this solution is not a panacea that will instantly fix every pressing issue related to the provision of rural health services, it does address the root of this problem with an integrated system of networked rural surgical service delivery that



formalizes, optimizes, and potentially expands existing referral networks. Rural populations will benefit from improved access to care, including maternity services, and the provision of surgical, procedural, preventative, trauma, and recovery services as close to home as possible. Integrated interprofessional rural health service delivery networks are poised to deliver optimal care to rural residents, while improving both patient and provider experience and satisfaction, within a cost-effective framework.

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