



Symposium on Anesthesia Care and Pain Medicine in Rural and Remote Regions of Canada

November 20 & 21, 2020

Symposium
Report

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Co-Chairs

Department of Anesthesiology
and Pain Medicine

**Symposium on Anesthesia Care
and Pain Medicine in Rural and
Remote Regions of Canada**

November 20 & 21, 2020

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Symposium Co-Chairs

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in urban and rural Canada

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Pip Swartz

Coaching networks, mentorship and
educational opportunities

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Technology, virtual reality and distance
coaching and learning

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Julian DeBacker

Training and supporting rural generalists
(anesthesia, obstetrics, surgery)

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Miguel Proulx

Rural and remote practice models of care in Canada,
including allied health professionals

Roy Kirkpatrick
Matthew Kurrek
Jason McVicar
Roanne Preston

Alborz Noorani

Policy through collaboration with national
medical societies and government

Angela Enright
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Tarimobo Otobo

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Message from the Co-Chairs

Canadians are proud of our publicly funded health care system. However, the quality of care you receive, and the ready accessibility to those services, depends on where you live in Canada. Health care in rural and remote regions of Canada bears little resemblance to the major health infrastructure available in urban communities. Not only are the health needs of rural and remote communities no less complex, but they are also made even more challenging by geographical distance, intemperate weather, and demographic and societal factors — from structural racism to fewer economic opportunities — that impact social determinants of health.

The challenges in rural and remote regions are especially pronounced when viewed through the lens of anesthesia services, which is essential for the provision of other types of care, including surgical, obstetric and emergency services. With an overall shortage of anesthesiologists projected in Canada by the Canadian Anesthesiologists' Society and a growing concentration of anesthesiologists in urban centres, finding new solutions is critical if those other services are going to be sustained. Canadians living in rural regions generally have poorer health outcomes and a lower life expectancy.

In a July 2020 commentary we authored in the Canadian Medical Association Journal (CMAJ) — “Canada Needs a National Strategy for Anesthesia Services in Rural and Remote Regions” — we argued that, through greater collaboration and a national strategy, “rural and remote regions gain reliable access to the anesthetic and pain management care they deserve.” The model for such an approach is the Rural Road Map for Action, developed by the College of Family Physicians of Canada, the Society of Rural Physicians of Canada and others to support an adequate medical workforce for rural Canada. To meet this goal, we proposed five central tenets: social accountability, policy interventions, rural and remote practice models, a national research agenda, and mentorship and continuing professional education.

This commentary resonated with many physicians, health care leaders and community members. So, to put our words into action, we worked with a dedicated team to host the Symposium on Anesthesia Care and

Pain Medicine in Rural and Remote Regions of Canada. Held on November 20 and 21, 2020, the symposium was an opportunity to think more deeply about some of these issues and to establish a working plan that would bring us closer to the national strategy we called for in the CMAJ. This report summarizes the learnings gained from the symposium and the action plans proposed.

We invite your engagement in this strategy. Please share your thoughts by contacting us at chair.anesthesia@utoronto.ca.

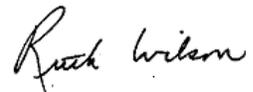
We would like to thank all participants for their active engagement. We would also like to acknowledge the following individuals:

- The co-chairs and emerging scholars for helping to plan the meeting and lead the workshops;
- The speakers — particularly the keynote speaker, Dr. Rodney Mitchell, and Her Excellency, the Right Honourable Julie Payette, Governor General of Canada — for their remarks; and,
- The administrative team of the Department of Anesthesiology and Pain Medicine at the Temerty Faculty of Medicine for their enthusiastic support of the symposium.

Sincerely,



Dr. Beverley A. Orser
Chair, Department of
Anesthesiology
and Pain Management
Temerty Faculty of Medicine
University of Toronto



Dr. C. Ruth Wilson
Professor Emerita,
Department of
Family Medicine
Faculty of Health Sciences
Queen's University

Executive Summary

Over two days, participants of the Symposium on Anesthesia Care and Pain Medicine in Rural and Remote Regions of Canada learned about strategies, interventions and issues pertaining to the delivery of anesthesia care and pain medicine services beyond urban centres. The participants, who are spread across Canada and who were brought together via an online teleconferencing platform, work in many different aspects of health care. They included anesthesiologists, family physicians, surgeons, obstetricians, nurses, midwives, medical trainees, and others. Together, they not only demonstrated an interest in improving the provision of anesthesia services in rural and remote regions, but also a commitment to action.

The following themes for action emerged from the talks and conversations held as part of the symposium:

1. **Data** — ensuring comprehensive data is necessary to inform ongoing conversations and deliver evidence-based proposals. A common data source can overcome information deficits or perceptions informed by anecdotes, not evidence.
2. **Collaboration** — no single organization has the insights, expertise or capacity required to identify or implement potential solutions. Establishing a broad “coalition of the willing” — and leveraging its collective strengths — will be essential to ensure the success of a potential national strategy. Further, broad collaboration will help to ensure that the best data are obtained.
3. **Community Engagement** — coupled with the need for broad collaboration is the need for specific community engagement. It’s not for the health professionals alone to determine the health care needs of rural and remote communities. Their voices must be heard and respected. In particular, the need to understand and respect Indigenous sovereignty is imperative.
4. **Communication** — to support the collection of data, foster collaboration and ensure community engagement, there must be ongoing communication. This will ensure that new ideas are shared, new information is distributed and feedback is considered. It is also critical that these findings are communicated to policy makers with recommendations for action.
5. **Mentorship and Peer Support** — supporting those delivering anesthesia services in rural and remote regions is essential to ensure their well-being and professional development and to demonstrate the value of their work. Encouraging medical professionals to practise in these regions will be an ongoing challenge without sustained support and mentorship.

In addition, following thoughtful discussions and reflections, the following recommendations were proposed:

1. Academic health science centres (AHSCs) must accept that their social accountability mandate requires that they educate a sufficient quantity and quality of both specialist and non-specialist anesthesia providers to meet Canada’s needs.
2. Health human resource planning for anesthesiology and pain medicine must move away from being haphazard and become more coordinated and data driven.
3. Mentoring and coaching of anesthesia providers in rural and remote communities is an immediate practical step that can be taken to support recruitment and retention.
4. Technology offers new possibilities for remote coaching, including virtual and augmented virtual reality, as well as building a remote presence.
5. Regional networks of care must support the crucial role of small active rural hospitals. Anesthesia, surgery and maternity care in these rural programs are tightly integrated and mutually interdependent; thus, they must receive parallel support.
6. We must build on the current initiatives of professional organizations to involve a wider partnership to move these recommendations forward. A working group of key professional organizations, policy makers, patients (including Indigenous persons), health professionals, community representatives and other willing contributors should be constituted and funded.

Based on the findings of this symposium and the recommendations established, a committed team of individuals will establish a work plan, and the team will liaise with anesthesiologists, family doctors, surgeons, obstetricians, professional organizations, patients and health-care administrators to move the recommendations forward.

Symposium Proceedings

Opening Remarks

The symposium was opened by co-chairs Dr. Beverley Orser and Dr. Ruth Wilson. Dr. Orser noted that 170 delegates registered to attend the symposium and remarked, “You are, as [Dr. Wilson] likes to say, a coalition of the willing.” Dr. Wilson, who participated in the symposium from Treaty 8 Territory, offered an acknowledgement of traditional lands and invited participants to take a moment to reflect upon the lands upon which they sat.

Dr. Wilson then introduced the Governor General of Canada, the Right Honourable Julie Payette. Her Excellency extended greetings to symposium delegates and observed, “We can do better, and we are actually better equipped to solve this problem than ever before, so we must make every effort to tackle this persistent problem.”

Her Excellency's remarks were followed by Dean Trevor Young of the Temerty Faculty of Medicine at the University of Toronto. He remarked that “we, in Toronto, cannot presume to know — though with the best of intentions and insights — what is best for [rural and remote] communities. We must also find ways to raise public consciousness about the geographical health inequalities in this country. If we want to influence policy makers, we need the evidence, the solutions, but also the public support for action.”

Dr. David Tenenbaum, Interim Chair of the Department of Family and Community Medicine at the University of Toronto, then addressed symposium delegates, stating that “equity should be a driving focus, along with leadership from physicians and community members.”

Dr. Dolore McKeen, President of the Canadian Anesthesiologists' Society (CAS), also offered her welcome. She noted that CAS recognizes that rural and remote regions are especially disadvantaged in the provision of care, and that Family Physician Anesthetists play an important role in supporting rural surgery and obstetrics. She expressed the commitment of CAS to help find solutions to these complex issues, “as the voice of the profession, but also to meet our patients' needs.”

Watch the proceedings:
youtu.be/eBGs_4pnLi0

Watch the remarks of The Rt. Hon. Julie Payette
youtu.be/-Yr7VAk7upU

From the Chat

“Thanks very much, great work uniting and putting us all together! The country has so much to offer as a group of knowledgeable professionals.”

Dr. Brendan Munn practices anesthesia and emergency medicine at Hawkesbury & District General Hospital (Ontario).

Keynote Address

Dr. Rodney Mitchell, the Immediate Past President of the Australian and New Zealand College of Anaesthetists & Faculty of Pain Medicine (ANZCA), offered the keynote address. He works in both public and private practice in Adelaide in anaesthesia and intensive care. He holds staff positions in the Department of Anaesthesia at the Queen Elizabeth Hospital and the Department of Intensive Care at the Lyell McEwin Hospital. He spent nine years in central Australia, working in remote primary health care, retrieval medicine and, more recently, as Director of Anaesthesia at the Alice Springs Hospital. Dr. Mitchell is a supervisor of training at the Queen Elizabeth Hospital. He was elected to the ANZCA Council in 2010 and took office as the President of ANZCA in May 2018, finishing in May 2020.

Dr. Mitchell began his remarks by observing that “Australians and Canadians share a lot in common when it comes to providing rural and remote care,” including the following:

- Delivery of health care is frequently frustrated by long distances and inclement weather;
- Both countries have a medical workforce that clearly has a preference for big city life and, “I’ll say, the ‘prestige’ of working in large tertiary health centres”; and,
- Broad similarities between Indigenous peoples in Australia and Canada, including a strong intergenerational sense of identity and heritage, legacy of residential schools and low socio-economic status.
- Dr. Mitchell offered the following observations, based on his experience delivering anesthesia care in rural and remote Australia:
- He noted the importance of collaboration, especially with government and the colleges/ regulatory bodies of other specialties and health professions. He noted how such collaborations benefited efforts to collect data and engage in workforce planning.

- He emphasized the importance of data to understand current and future needs, as well as to evaluate interventions and policy changes.
- The Australian government supported the “Specialist Training Program” that provides funds for new training opportunities in rural communities.
- He noted that negative stereotypes associated with working in rural communities may impede advancement opportunities for physicians or frustrate physician recruitment. He told participants that a rural medicine special interest group has been established in Australia — with more than 400 members — that meets twice a year to support physicians working in rural communities.
- He spoke to the development of specialist training, including a Diploma of Rural Generalist Anesthesia that would launch in 2022 as a robust one-year certificate to support a higher level of emergency care and patient safety.
- He also spoke to the need to support rural generalists (“We need to do better as a specialist college in supporting our non-specialist colleagues”).

Watch the proceedings:

youtu.be/DdPOk1XvmUo

From the Chat

“Some napkin math to translate Rod Mitchell’s point about numbers of Indigenous anesthesiologists in Canada: Indigenous peoples are 4.9 per cent of the population. So, 3,000 anesthesiologists x 4.9 per cent = 147 First Nations, Inuit and Métis anesthesiologists. That’s the minimum standard we should be setting as a benchmark. What are we doing to achieve that goal?”

Dr. Jason McVicar is an anesthesiologist at the Ottawa Hospital and a faculty member of the University of Ottawa’s Department of Anesthesiology and Pain Medicine.

Symposium Remarks

Health Care Equity for All Communities

Dr. Lisa Richardson

Dr. Richardson is Strategic Advisor, Indigenous Health, and the Department of Medicine's Vice Chair of Culture and Inclusion at the University of Toronto's Temerty Faculty of Medicine. She is also a General Internal Medicine Physician at the University Health Network in Toronto.

Dr. Richardson began her remarks by noting that discussions about race are often uncomfortable, but uncomfortable is not the same as unsafe. She encouraged participants to embrace the concept of “wise practices” to drive reconciliation in health care. She shared a quote cited in [Best Practices in Community Development](#) by Cynthia Wesley-Esqimaux and Brian Callious (The Banff Centre, 2010, p. 19): “Wise practice, by its very nature, is idiosyncratic, contextual, textured and probably inconsistent. It is not standardized, not off-the-shelf, and not a one-size-fits-all concept.” Dr. Richardson spoke of the need to advocate for policy and system change that emphasizes the needs of communities — as stated by community members — not presumed by physicians or other authorities. She also discussed the importance of strong partnerships with local communities, especially Indigenous communities, in rural and remote regions, and to the importance of ensuring that equity is embedded into organizational strategic plans. Dr. Richardson discussed the importance of Trauma Informed Care and Indigenous Self-Determination, including Indigenous Data Governance Data Agreements.

Safespace

“We are willing to share our traumatic experiences in health care. The sad reality is that the health system isn’t ready to hear it.”

Ted Quewezance, Past Chief of Keeseekoose First Nation.

The Safespace Networks project is an Indigenous, early-stage tech startup whose mission is to resolve the fears and concerns patients, their families and the providers who participate in their care have when reporting experiences in health-care settings.

Learn more: safespace.healthcare

Rural Practice Models for Obstetric Care

Dr. Andrew Kotaska & Ms. Lesley Paulette

Ms. Paulette is a midwife based in Fort Smith, NWT. Dr. Kotaska is an obstetrician and gynecologist in Yellowknife, NWT.

Ms. Paulette described maternity care in Fort Smith and the surrounding area. She began her remarks by noting that midwifery, though a traditional practice in the region, had disappeared for a time as the medicalization of childbirth was emphasized. “It was a time when women were being sent away. It was a form of forced exile. There was a time when people only died in Fort Smith; no one was being born here,” she said. Fort Smith, with a population of approximately 3,000 people, has no permanent physician providing maternity care, but has two permanent midwives. There are approximately 40 pregnant women there per year. There is specialist back-up available in Yellowknife (approximately 300 km away by air). Ms. Paulette also presented maternal and newborn outcome data for approximately 500 pregnancies of women living in Fort Smith.

Dr. Kotaska explained the Remote Community Birth Decision Tree that has been developed and used in the region. It begins with listening to the pregnant woman about where she wants to give birth and ensuring that she is informed about the limitations of local care.

Watch the Talk
youtu.be/7ACTT4RvvKs

From the Chat

“Without a local C/S program, the rural family physicians have largely abandoned maternity care. To their great credit, the rural midwives are sustaining many of the remaining maternity care programs, especially with large Indigenous populations, where the local surgical programs have been lost.”

Dr. Stuart Iglesias is a rural family physician with enhanced skills working and living in Bella Bella on BC’s central coast.

Clinical Coaching Programs that Work

Dr. Kirk McCarroll & Dr. John McAlpine

Dr. McCarroll is a family physician with enhanced training in anesthetics. He is also the Family Practice Anesthesia Network Lead for the Rural Coordination Centre of British Columbia. Dr. McAlpine is an anesthesiologist at Lions Gate Hospital in Vancouver and the Director of the University of British Columbia (UBC) Family Practice Anesthetists (FPA) residency program. He has participated as a coach in the "UBC Coaching and Mentoring Program."

Dr. McCarroll and Dr. McAlpine outlined the development of the UBC Family Practice Anesthesiology Clinical Coaching program, which partners rural family practice anesthesiologists with an anesthesiologist coach from an urban tertiary centre. Currently, coaching and mentoring are supported by UBC for any FPA who applies for funding through the University. There are also eight rural sites that have more formal coaching programs funded by the Rural Surgical and Obstetrical Network (RSON), which include coaching for nurses, GP surgeons (enhanced surgical skills), and maternity care providers in addition to FPAs. Each program is individualized and includes the following coaching options:

1. Specialist coaching with specialists visiting the rural site.
2. Specialist coaching with specialist connecting for coaching remotely through "remote presence technology" (these devices were funded through the RSON).
3. "Coachee" visiting their specialist coach at a larger hospital.
4. Peer coaching where two FPAs coach each other and share their own knowledge with each other.

The goals for this program are:

- Education (for both FPAs and specialists)
- Professional support
- Relationship building
- Continuous quality improvement
- Increased access to high-quality services
- Increasing volume of surgical services at rural sites

They noted that when developing such a program, it was important to consider the following:

- A needs assessment to carefully pair participants
- A commitment to confidentiality
- Accreditation for maintenance of certification purposes
- Engaging and getting support from local health authorities
- Ensuring coach training/orientation (Dr. McCarroll noted that mentoring isn't the same as teaching, and that it requires finesse to give feedback in that setting)

Watch the Talk

youtu.be/jO3o69zFNX8

From the Chat

"As a trainee, it is very comforting to know that this model exists. I will be seeking out such models in the future for sure. Developing supportive relationships is so important."

Dr. Michael Kruse is a first-year family medicine resident at Queen's University.

How the Sausage Is Made

Dr. Joshua Tepper

Dr. Tepper is a family physician who has worked in a variety of public policy capacities throughout his career. He is currently the Education Health Advisor to the Ontario Ministry of Education.

Dr. Tepper, who was speaking from a personal — not professional — perspective, outlined how the interplay between politicians, civil servants, media, professional associations, educational bodies, health care providers, advocacy groups and other jurisdictions informs public policy development. He also spoke to his experience of being a resident member of the Steering Committee on Social Accountability of Medical Schools and the development of “Social Accountability: A Vision for Canadian Medical Schools” in 2002, which has informed public policy in subsequent years.

From the Chat

“Excellent presentation, Dr. Tepper, outlining the complexities of policy/program development and implementation.”

Dr. Douglas DuVal is an anesthesiologist at the Royal Alexandra Hospital (Edmonton, AB), a Clinical Professor in the Department of Anesthesiology & Pain Medicine at the University of Alberta and a past President of the Canadian Anesthesiologists’ Society.

Setting the Context in Rural Canada

Dr. James Rourke

Dr. Rourke was a rural family physician and former dean of medicine and is Professor Emeritus at the Faculty of Medicine of the Memorial University of Newfoundland. He is the co-chair of the Rural Road Map Implementation Committee.

Dr. Rourke described the state of health care in rural and remote regions. He noted that almost one-fifth of Canadians — 18 per cent — live in rural and remote regions, as do a large number of the Indigenous population. He spoke about the geographical challenges of delivering care, despite the role of telemedicine, especially in obstetrics. He offered two functional definitions to ground the conversation:

- **Rural Medicine:** Medical care provided where access to specialist care and specialized resources is limited or distant
- **Remote Medicine:** Medical care provided where/when transfer/ access to in-time specialist care and specialized resources is high risk or impossible.

He noted that rural medicine can sometimes be transformed into remote medicine due to adverse weather conditions. Finally, he spoke about the important role of small hospitals in supporting rural medicine, but noted that the rural health care system needs to be redesigned, according to patient needs, access and equity.

Watch The Talk

youtu.be/lb3LNRDeMcs

From the Chat

“Brilliant, Jim, in setting the context in rural and remote care...insightful thoughts for all of us... Key access and intrinsic issue is not just anesthesia but also surgical/trauma care — we must plan both hand in hand; and to enhance upstream training beginning in Undergraduate Medical Education and not just Post-graduate Medical Education.”

Dr. Davy Cheng is an anesthesiologist and Distinguished University Professor in the Department of Anesthesia & Perioperative Medicine at Western University’s Schulich School of Medicine & Dentistry.

Anesthesia Workforce

Dr. Mateen Raazi

Dr. Raazi is Provincial Head in Anesthesiology for the Saskatchewan Health Authority and the University of Saskatchewan and an anesthesiologist at Jim Pattison Children's Hospital of Saskatchewan (Saskatoon, SK).

Dr. Raazi described the current and future workforce issues within anesthesia across Canada. According to the Canadian Medical Association's Masterfile, there were 3,393 anesthesiologists in Canada in 2019; of these, Nova Scotia had the highest number of 11.9 anesthesiologists per every 100,000 population, while the Territories had the lowest number of 0.8. The national average in 2019 was 9.1, which despite steadily increasing from 7.6 in 1995, has not kept pace with the rising demand for anesthesiology services both within and outside the operating rooms. He also noted that the workforce was aging, with 40 per cent of anesthesiologist being 55 years of age or older. He reviewed previous efforts at workforce planning and outlined the risk of poor planning, especially the risks to anesthesiology service provision in rural and remote regions of Canada. He suggested the key was to meaningfully engage partners, especially government, and to approach health human resource planning through a process that is iterative, comprehensive, collaborative, centralized, disseminated, updated and integrated.

Watch The Talk
youtu.be/ezzd2Kq9ceo

From the Chat

"If we had a National Locum licensure program, a significant amount of both surgical and anesthetic manpower would be unleashed."

Dr. Joy Hataley is a family practice anesthetist who practices in Kingston, Ontario.

From the Chat

"Why is it that government and health human resources are being managed by us as provider physicians? It is an interesting feature of our system that it falls to us to generate data, form partnerships, advocate, recruit aggressively et cetera. Of course, we should be at the table but the fact that others/ government are a question mark at the end of the list is very telling about the approach we have to take."

Dr. Brendan Munn practices anesthesia and emergency medicine at Hawkesbury & District General Hospital (Ontario).

The Future Role of Technology in Underresourced Environments

Dr. Julian Wiegelmann & Dr. Fahad Alam

Dr. Wiegelmann and Dr. Alam are both anesthesiologists at Sunnybrook Health Sciences Centre in Toronto and members of the Department of Anesthesiology and Pain Medicine at the University of Toronto.

Dr. Wiegelmann and Dr. Alam discussed how technology is being applied to health care practice and medical training. Technology that was once seen as resource intensive is now more accessible, including virtual/augmented/modified reality simulation and 3D printers. Not only can this help support and train medical professionals in remote regions, but it can also be used to help patients understand processes in advance of their operations or procedures. They warned, however, that the use of technology must be coupled with intentional training and pedagogical approaches that can ensure effective educational outcomes. They proposed a vision of the future that would include TeleSim Hubs, which could integrate 3D printing and design, simulation, procedural guidance and first-person decision-making.

Watch The Talk
youtu.be/NNvZkYpD8bk

From the Chat

“We’re working on VR simulation for the simple (PPE donning/doffing) and more complex (fetal bradycardia after placed labour epidural) procedures. Really interesting to work with, though the biggest problem is user lack of familiarity with the headsets and how to troubleshoot when the program ‘stalls’.”

Dr. Roanne Preston is Department Head of Anesthesiology, Pharmacology and Therapeutics in UBC’s Faculty of Medicine. She is also an anesthesiologist at BC Women’s Hospital (Vancouver, BC).

From the Chat

“The Society of Rural Physicians of Canada (SRPC) has a program where we do simulations in rural emergency departments that are facilitated remotely. This allows the participants to work with their own team in their own environment using their own equipment.”

Dr. Margaret Tromp is a family physician who recently relocated to Moose Factory, Ontario, where she has a full spectrum practice. She is also an adjunct Associate Professor in the Department of Family Medicine at Queen’s University.

Vision and Recommendations

Following presentations, participants joined one of seven workshops that focused on a specific topic. The workshops included an exploration of the topic and considered how it might contribute to the advancement of anesthesia and pain medicine in rural and remote regions in Canada. Stemming from these conversations, each group prepared a report that identified recommendations that could be implemented in the short and long term was prepared.

The workshop topics were:

1. Anesthesia workforce planning in urban and rural Canada
2. Coaching networks, mentorship and educational opportunities
3. Policy support for rural anesthesia and pain medicine
4. Technology, virtual reality and distance coaching and learning
5. Training and supporting rural generalists (anesthesia, obstetrics, surgery)
6. Rural and remote practice models of care in Canada, including allied health professionals
7. Policy through collaboration with national medical societies and government

By consolidating and reflecting on these discussion topics, a vision emerged.

Vision

Providing equitable access to anesthesia and pain services for Canadians living in rural and remote regions.

Background: Symposium participants learned that in Canada, anesthesia care is provided by specialist anesthesiologists certified by the Royal College of Physicians and Surgeons of Canada, internationally trained specialist anesthesiologists and Family Practice Anesthetists (FPAs) certified by the College of Family Physicians of Canada. There was strong endorsement by symposium participants

of the collaborative roles of all these providers, but particularly FPAs in the provision of anesthesia and pain medicine care in rural and remote areas. In “critical access” rural hospitals, these three groups provide care for emergency, surgical and obstetric services.

In some parts of Canada, FPAs are supported in group practices by specialist anesthesiologists who provide short- or medium-term support. Where this service is well established, it lends itself to mentoring and coaching of FPAs. In other parts of Canada, such as Quebec and the Maritime provinces, anesthesia and pain services in remote regions are provided primarily by itinerant or locum specialist anesthesiologists. This model may be expensive due to travel and accommodation costs and could lead to occasional shortfalls in coverage. As the need for anesthesiologists in larger urban centres expands, recruitment and retention of providers may become more problematic. The focus should be on ensuring there is local, stable and sustainable capacity to manage anesthesia and pain services rather than on developing and relying on portable workforces. FPAs are skilled generalist who can support anesthesia and pain services, but also often bring other needed clinical skills to the community such as resuscitation, intrapartum obstetrics, emergency medicine and family medicine.

Anesthesia assistants are certified health care professionals trained in well-established Canadian programs. They are becoming a more common and essential resource in urban areas; however, there is little experience integrating anesthesia assistants into rural clinical teams. The expansion of the role of the anesthesia assistant model in appropriately sized facilities in rural Canada deserves to be further explored. In Canada, anesthesia is defined as a medical act. Thus, there is very little if any experience in Canada of nurse anesthetists in rural and remote regions. Also, providers with a single anesthesia skill set are difficult to deploy in thinly populated rural communities.

Overall, it is clear that more specialist anesthetists and FPAs need to be trained. Further, the FPA model needs to be expanded and better supported by specialist anesthesia services and education programs.

Recommendations

1. Academic health science centres (AHSCs) must accept their social accountability mandate, which requires that they educate a sufficient quantity and quality of anesthesia providers to meet Canada's needs.
2. AHSCs must work with provincial and territorial governments to fund and educate FPAs and FRCPC anesthesiologists to meet Canada's needs. This should include the opportunity for all anesthesia providers to undertake part of their residency training in rural environments. At a minimum, rural electives must be offered.
 - 2.1 The integrated nature of anesthesia, surgery and maternity care requires that rural physicians be educated as generalists, be they family physicians or other specialists.
3. Most remote communities in Canada are Indigenous; thus, working towards equitable access to care may combat systemic racism in the health care system and addresses the vision outlined in the reports of the Truth and Reconciliation Commission of Canada.
 - 3.1 FPA, anesthesia and pain residency programs develop curriculum related to social accountability, historic inequities in health services in Canada and factors that contribute to different health outcomes for populations in rural Canada, including Indigenous populations.
4. Policy interventions are required for decisions regarding health workforce planning and data-driven training and deployment of physicians who provide anesthesia care in rural Canada. There is an urgent need to develop better data for health workforce planning, including an understanding of scope of work, on-call hours and community needs.
5. Develop a research agenda that identifies gaps between current and needed clinical services, clinical outcomes, quality improvement metrics and educational needs.
6. Mentorship and continuing professional educational programs that support different rural and remote practice models are needed. As an immediate practical step, develop mentoring and coaching programs that are nested in AHSCs to provide urgent and ongoing support to rural physicians.
 - 6.1 Opportunities for refresher courses or skills upgrading should be available to FPAs in the AHSCs.
 - 6.2 AHSCs can take the lead in helping to develop coaching and mentoring programs such as the one in British Columbia. Funding from provincial governments would aid in this. AHSCs are in the position to develop and offer advanced technology as part of this initiative.
7. Technology offers new possibilities for remote coaching, including local and remote simulation, virtual and augmented virtual reality.
8. Regional networks of anesthesia care and pain medicine services must be tightly integrated into surgery and maternity care programs as these programs are mutually interdependent. Care must be of high quality regardless of where it is delivered and by whom. Accountability for quality care provided within a region is shared, and must be measured, reported and continuously improved.
9. Identify a single national professional organization (e.g., the Canadian Anesthesiologists' Society or the College of Family Physicians of Canada) to serve as a professional home for non-specialist physicians practising anesthesia care and pain medicine in rural Canada.
10. Build on the current initiatives of professional organizations, such as the Collaborative Advisory Group on General and Family Practice Anesthesia (CAGA) to involve a wider partnership to move forward with these recommendations. A working group of key professional organizations, policymakers, patients (including Indigenous persons), health professionals, community representatives and other willing contributors should be constituted and funded.

Conclusion

The urgent need to address anesthesia and pain medicine in rural and remote regions in Canada is evident. Anesthesia is not only essential to support the well-being of rural and remote communities, but it is also a pillar that supports other services, including obstetrics and surgery. If anesthesia falls, so do the other services. And, as almost all remote communities are Indigenous communities, addressing this challenge is essential if we are going to ensure equitable care for Indigenous Canadians and meet the Calls to Action of the Truth and Reconciliation Commission of Canada, specifically Call to Action #19, which speaks to closing “the gaps in health outcomes between Aboriginal and non-Aboriginal communities.”

The Symposium on Anesthesia Care and Pain Medicine in Rural and Remote Regions of Canada was significant, first and foremost, because it identified a broad community of practitioners and scholars invested in finding solutions. Second, it shared the latest research, interventions, technology and strategies that can be applied to addressing this challenge. And third, it identified a compelling vision and proposed supportive recommendations for action.

Now is the time to develop a broad coalition — one that includes regional community representatives, Indigenous organizations, and professional bodies — to advance anesthesia and pain medicine in rural and remote regions. Anesthesia, surgery (both family physicians with enhanced surgical skills and rural specialist surgeons) and obstetrics (midwifery, family physicians and obstetricians) are mutually supportive and essential in the provision of rural health care; collaboration is crucial. Through the strength and perseverance of a committed team of individuals, a work plan will be established, and the team will liaise with family doctors, surgeons, obstetricians, professional organizations, patients and health care administrators to move the recommendations forward.

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