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An elevated urinary total arsenic level with a low inorganic arsenic level typically indicates nontoxic organic arsenic. This most commonly results from seafood consumption; even a single meal of fish, shellfish, or seaweed can significantly increase urine arsenic levels. "Cod intake masquerading as arsenic toxicity" begins on page 244.

CLINICAL

CASE REPORT

ORIGINAL RESEARCH

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Environmental impact

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We humbly acknowledge the traditional territories of First Nations within British Columbia and that our offices are situated on the unceded territories of the xʷməθkʷəy̓əm (Musqueam), Sḵwx̱wú7mesh (Squamish), and səlilwətaɬ (Tsleil-Waututh) Nations. For Doctors of BC, acknowledging the traditional territories is an expression of cultural humility that involves recognizing our commitment to support the provision of culturally safe care to Indigenous Peoples in BC.

ON THE COVER

Surgeons, represented by an eagle with its wing spread to protect a patient, may be reluctant to provide palliative care for patients for many reasons. The authors explore the understanding of modern palliative care among BC general surgeons and its potential role for their patients. "Goal-concordant surgical care for patients: General surgeons' experiences of palliative care" begins on page 248.

Mission: The *BCMJ* is a general medical journal that shares knowledge while building connections among BC physicians.

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doctors of bc

Evaluating patient satisfaction and eliciting feedback from patients helps care providers advocate for their patients' needs, respond to areas of dissatisfaction, and improve health outcomes. "Assessing patient satisfaction in the BC Children's Hospital Spinal Cord Clinic" begins on page 238.

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Tools to address anti-Indigenous racism in health care

It is said that the best time to plant a tree was 20 years ago, and the second-best time is today. September is our reminder to reflect and recommit to learning about the ongoing impacts of colonialism on Indigenous Peoples in Canada—and how we, as health care professionals, can contribute to change.

The National Collaborating Centre for Indigenous Health (NCCIH) is a valuable resource for physicians and health care providers. Established in 2005 by the Government of Canada and funded by the Public Health Agency of Canada, it "support[s] First Nations, Inuit and Métis public health renewal and health equity through knowledge translation and exchange." The NCCIH listens to community voices and shares knowledge to guide meaningful improvements in public health. Its work includes supporting research, producing reports, and co-creating resources rooted in Indigenous perspectives and priorities.

The NCCIH is hosted in Prince George, BC, on the unceded traditional territory of the Lheidli T'enneh First Nation. At the *BCMJ*, we're excited to share that one of our Editorial Board members, Dr Terri Aldred, was appointed as the academic lead at NCCIH on 7 May 2025. Dr Aldred's priorities include serving edge populations and communities first and translating more of the NCCIH's work on cultural safety and humility and Indigenous-specific antiracism standards into best practices for everyday clinical applications.

As we work toward decolonizing health care in Canada, it's important to amplify Indigenous-led governance in public health. I asked Dr Aldred a few questions about her new role with the NCCIH and how physicians and researchers from across BC can get involved.

Q: If a medical learner or community physician in BC wanted to get involved but didn't know how, where could they start?

A: The NCCIH has close ties with universities across the country and with the Canadian Institutes of Health Research. We focus on knowledge translation of research for Indigenous populations and support research by request from independent researchers, academics, funders, and community groups.

September is a reminder of the opportunity we have for humility, listening, and growth—both as individual practitioners and as a profession striving to do better.

Q: Tuesday, 30 September 2025, is the National Day for Truth and Reconciliation. The Truth and Reconciliation Commission's Calls to Action 18–24 focus on Indigenous health, including recognizing Indigenous healing practices. Can you share an example where this is done well?

A: Lu'ma Native Housing Society has its own primary care clinic with sweat lodges, traditional medicines, Elders, and other traditional healing offerings. It is also guided by the urban Indigenous community it serves. It's an excellent example.

Q: At the *BCMJ*, we are aiming to evolve how we learn and share research, including Indigenous ways of knowing and storytelling as valid and essential forms of health knowledge. What community-led projects or NCCIH publications would you like to highlight that help promote Indigenous worldviews?

A: Cultural safety and humility initiatives are a highlight of the NCCIH's work. The Health Arts Research Centre recently released an open-access anticolonial learning resource called HEAL Healthcare (Hearts-based Education and Anti-colonial Learning in Healthcare). It is arts-based training about how to address bias in medicine through poetry, storytelling, visual arts, and other creative tools.

I learned about the NCCIH through its emails, which you can sign up for at the bottom of its website (www.nccih.ca). You can also search publications by health topic on the site. The cultural safety and respectful relationships collection, for example, contains a Diversity Awareness Self-Reflection Tool with 25 questions to help guide future reading and learning to improve patient-centred care.[1]

In this issue of the *BCMJ*, we'll hear from Dr Lui in the President's Comment about honoring truth and pursuing reconciliation outside the clinic, as well as from the BCCDC on truth telling in public health. The breadth of these commentaries speaks to the wide-reaching concern about anti-Indigenous racism in health care. Reforming our systems in pursuit of reconciliation will continue to be complex, difficult, and multifaceted, but we have solved complex problems together in the past. In fact, solving problems is what physicians do every day. September is a reminder of the opportunity we have for humility, listening, and growth—both as individual practitioners and as a profession striving to do better.

—Caitlin Dunne, MD

Reference

1. Alberta Health Services. Diversity awareness self-reflection tool. March 2015. Accessed 6 August 2025. www.albertahealthservices.ca/assets/info/hp/phc/if-hp-phc-rc-gen-diverse-awareness-reflection-tool.pdf.

Beyond Kelowna: A wake-up call for child health in British Columbia

For many of us, the closure of the pediatric inpatient unit at Kelowna General Hospital in May 2025 did not come as a surprise. Pediatricians in the region had been raising concerns about safety and sustainability for years. When no action followed, they began to leave. The result was a total shutdown of hospital pediatric care in one of the fastest-growing urban centres in the province. The subsequent scramble to stabilize care—urgent negotiation, expansion of locum coverage, and solicitation of ad hoc support from maternity and emergency services—laid bare the fragility of the system we depend on to care for children in BC.

Over the last decade, pediatricians have seen surging demand for care and increased patient complexity across the board. The system is struggling to keep up. Children with routine, but serious, concerns—such as developmental delays, mental health challenges, and chronic conditions—now wait up to 3 years for subspecialty assessment, often while their conditions worsen and their families struggle to cope in the absence of a diagnosis and coordinated support.

There are growing geographical disparities in the provision of care as well. In the face of unrelenting caseloads, limited support, and few incentives, many pediatricians are choosing urban practice instead of work in rural and remote communities. In many parts of the province, there are no pediatricians at all. Fort St. John, for example, the epicentre of BC's current measles outbreak, has no local pediatrician coverage. Individual initiatives, such as the CHARLiE program for pediatric real-time virtual support (https://rccbc.ca/initiatives/rtvs/charlie), offer some resources for clinicians, but these models of care are unable to provide the continuity and relational care that are so fundamental to pediatric practice. Moreover, they face constant human resource and financial challenges of their own.

Children with routine, but serious, concerns—such as developmental delays, mental health challenges, and chronic conditions—now wait up to 3 years for subspecialty assessment.

At the same time, we are losing new medical graduates to other areas of medicine. Many young physicians, aware of the demands placed on pediatricians and a remuneration schedule that is not competitive with other medical and surgical disciplines, choose otherwise. While medical student classes have ballooned and competition for residency positions is higher than ever, pediatrics residency programs are seeing an unprecedented number of unmatched spots.

The situation is not due to lack of effort. Pediatricians are consistently answering the call to provide emergency locum coverage throughout the province, often above and beyond their own local practice; developing innovative programs to provide pediatric support in underserved communities; and working at well over 100% capacity in pediatric subspecialty areas at BC Children's Hospital to reduce wait lists. The strain is not borne only by pediatricians. Family physicians, already stretched thin, are increasingly asked to take on complex pediatric care without ready access to consultation. Maternity providers find themselves managing both mothers and newborns, with an increasingly complex set of concerns. Emergency physicians carry the burden of stabilizing children who should have been admitted to a pediatric unit and then spend hours coordinating transfers to distant hospitals.

What is happening in Kelowna is not an isolated operational anomaly; it is a high-profile symptom of a deep and long-standing provincial failure to develop a robust and cohesive strategy for child health care, one that prioritizes the unique needs of children and places equitable access to high-quality services at its core. The system needs to be resourced appropriately, and we need to respect the clinicians providing the care. We are at an inflection point. There can be no more excuses preventing us from establishing this strategy now. The future of the next generation in the province depends on it. ■

—Kristopher Kang, MD, FRCPC

Letters to the editor

We welcome original letters of less than 500 words; we may edit them for clarity and length. Email letters to journal@doctorsofbc.ca and include your city or town of residence, telephone number, and email address. Please disclose any competing interests.

Re: Electric micromobility devices

As a means to reducing car trips, I consider micromobility [*BCMJ* 2025;67:187-188] to be a *favorable* trend, as I am certain its benefits outweigh the risks, both medically and environmentally. I fear there is another recent transportation trend that represents a far greater issue, and it could be called *macromobility*. Especially as a nonmotorist—a so-called vulnerable road user, or VRU (although I remain unhurt in a lifetime of 428 000 bicycle kilometres)—I am dumbfounded by society's passivity regarding the burgeoning numbers of giant pickup trucks and SUVs prowling our streets.

Unlike practitioners of micromobility, who essentially remain a threat only to themselves, the growing number of drivers of oversize motor vehicles represents a *huge* menace to *everybody*, in four different ways:

- The vehicles are wider than most cars, especially when equipped with large side-view mirrors, and are more likely to make contact when overtaking VRUs and other vehicles.
- The elevated hoods are at neck height, so even if they strike a pedestrian or another VRU at low speed, the victim is likely to be thrown under the vehicle and fatally crushed.
- The vehicles are taller than most cars, obstructing the view of other road users and reducing the visibility of other cars and VRUs, making us more likely to be struck, especially at intersections, where we may seem to appear out of nowhere.
- The vehicles are heavier; therefore, in the event of a collision, their momentum results in inordinate damage to smaller vehicles and their occupants.

Furthermore, the manufacturing and operation of macromobility vehicles have far greater environmental impacts than any other modes of personal transportation.

I invite my colleagues to consider these factors when choosing their next vehicle and to display some leadership in challenging such a disturbing transportation trend.

—Thomas DeMarco, MD
Whistler

Re: Is medicine a calling? Or a career?

This was an excellent editorial [*BCMJ* 2025;67:157]. I would offer that another key contributor to physician burnout is a disconnect from community needs due to unnecessarily bureaucratic and often redundant health authorities—a disconnect from what was once a calling to serve. In my incoming role on the board of directors for BC Family Doctors, I look forward to advocating for frontline physician leadership and sharing how, in spite of a sometimes adversarial health authority, our North Island Community Health Centre in Port Hardy has demonstrated how truly accessible, culturally safe, and trauma-informed care *led by physicians* can be rooted in community needs while fostering the deep meaning in practice that we strive for.

—Alexander E. Nataros, MD, CM, CCFP
Medical Director, North Island Community Health Centre
Port Hardy

Library services for BC family physicians

I read with interest Dr Faye MacKay's excellent letter to the editor in the May issue of the *BCMJ* [2025;67:127]. Dr MacKay was justifiably distressed over the abrupt closure of the College of Physicians and Surgeons of BC's library service. I, too, was dismayed by the loss of this excellent service, which I used frequently over the years.

To compound the issue, the College of Family Physicians of Canada has subsequently also closed its excellent library service. Both library services were discontinued due to cost considerations.

BC family physicians are now left without a library research resource at a time when medicine is in the midst of rapidly accelerating clinical and technological advancements across all disciplines.

Doctors of BC and the Canadian Medical Association (CMA) have a collaborative relationship, particularly in advocating for physicians and the health care system in BC and Canada, respectively. They also work together on joint initiatives.

A few years ago, the CMA sold MD Financial Management to Scotiabank for $2.6 billion. Would it be too much to ask Doctors of BC to approach the CMA to fund a national library service for the benefit of all its members, as another good reason to belong to the CMA?

—Murray Trusler, MD, MBA, CCFP, FCFP
Peachland

Correction:

"Novel treatment of spasticity: International success through collaborative care" [*BCMJ* 2025;67:222-223] has been revised. The author requested the following change postpublication: Dr Timothy Murray was incorrectly named as Dr Michael Murray.

Honoring truth and pursuing reconciliation: The physician's role in healing beyond the clinic

In Canada, 30 September is the National Day for Truth and Reconciliation. For Indigenous Peoples, it is a symbolic day—a collective acknowledgment of historical trauma, systemic injustice, and the resilience of cultures that have survived genocide. For us in the medical profession, it is an invitation to look inward at our role and reflect on the harm suffered and the healing that must be done.

A history that cannot be ignored

Canada's health care system, often seen as a source of national pride, has not served all communities equitably. From forced sterilizations to inadequate care in remote areas, First Nations, Métis, and Inuit patients have faced systemic racism, neglect, and dehumanization within the institutions responsible for preserving life and dignity. The death of Brian Sinclair, a 45-year-old Indigenous man who died in a Winnipeg emergency room in 2008 after waiting 34 hours without being seen, exemplifies Indigenous-specific racism. Staff assumed he was intoxicated or homeless—but he was neither. Mr Sinclair was suffering from a treatable infection and was seeking help. His death was not due to a lack of knowledge or resources but resulted from assumptions and systemic racism.

Although we've made progress, the legacy of colonialism and intergenerational trauma from residential schools, forced relocations, and cultural violence continue to manifest in health outcomes. A 2024 Statistics Canada survey showed that nearly one in five Indigenous adults reported facing racism or unfair treatment from a health care provider in the prior year. Indigenous people in Canada experience higher rates of chronic diseases, greater mental health challenges, and lower life expectancies. These outcomes are not simply a result of individual choices or rural geography—they are symptoms of systemic neglect.

We are in a unique position to lead reconciliation in health care by listening, learning, and standing alongside First Nations, Métis, and Inuit communities to build a safe and equitable system for everyone.

The physician's role in reconciliation

As physicians, we are among the most trusted voices in society. That trust comes with a responsibility to care for patients and remedy harmful health care systems. We are in a unique position to lead reconciliation in health care by listening, learning, and standing alongside First Nations, Métis, and Inuit communities to build a safe and equitable system for everyone. Confronting Indigenous-specific racism is our ethical and professional obligation. Culturally safe care must be a professional standard.

To foster meaningful change and support physicians on their reconciliation journey, Doctors of BC, in collaboration with the Joint Collaborative Committees, is working in partnership with First Nations, Métis, and Inuit leaders to co-create engagement and learning opportunities for physicians, including First Nations community-based experiential learning sessions, webinars, and facility-based learning sessions. This work also encompasses supporting physician champions to connect with one another to amplify activities and practices aimed at eliminating Indigenous-specific racism and increasing cultural safety and humility.

Honoring truth and pursuing reconciliation

On 30 September, I encourage you to wear orange in honor of residential school survivors, attend a local community event, and reflect on your role in this work. There are also several simple steps you can take to show your commitment to providing culturally safe care as part of your daily practice:

- Acknowledge bias and educate yourself. Enroll in unconscious bias training or the Sa̱n'yas Indigenous Cultural Safety Training Program (https://sanyas.ca), learn about the legacy of colonialism, and review the Truth and Reconciliation Commission of Canada's Calls to Action[1]—particularly those focused on health, #18–24.
- Prioritize cultural safety. Take action to ensure Indigenous patients feel respected, heard, and valued. This includes involving Indigenous voices in health care planning and delivery.
- Advocate for equitable access. At the institutional and policy levels, advocacy is needed for investment in

Indigenous-led health care initiatives, especially those rooted in traditional knowledge and healing.

- Support Indigenous medical learners and colleagues. Representation matters. Encouraging and mentoring Indigenous medical students and supporting Indigenous physicians are critical to creating a more inclusive profession.

Reconciliation is a lifelong commitment. Physicians are trained to listen to their patients' stories, validate their pain, and offer a way forward. Indigenous communities are sharing their stories with us. Let's commit to truly listening and building a health care system where every patient feels safe, heard, and respected—a system that acknowledges the past and actively works to heal it. ■

—Charlene Lui, MD
Doctors of BC President

Reference

1. Truth and Reconciliation Commission of Canada. Truth and Reconciliation Commission of Canada: Calls to Action. 2015. Accessed 25 July 2025. www2.gov.bc.ca/assets/gov/british-columbians-our-governments/indigenous-people/aboriginal-peoples-documents/calls_to_action_english2.pdf.

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Assessing patient satisfaction in the BC Children's Hospital Spinal Cord Clinic

Offering patients a platform to express their level of satisfaction with their care can help care providers respond to areas of dissatisfaction and improve health outcomes.

Taewoong Chae, MD, Catherine Joanne Binda, MD, Jacqueline S. Purtzki, MD

ABSTRACT

Background: Assessing patient satisfaction, particularly among patients with complex disability, is vital to patient-centred care and access to care. We evaluated patient satisfaction at the BC Children's Hospital Spinal Cord Clinic using the Patient Satisfaction Questionnaire Short Form (PSQ-18), modified to suit our pediatric population.

Methods: The modified PSQ-18 was distributed to families who visited the Spinal Cord Clinic from June to October 2019. Seven domains of patient satisfaction were assessed: general satisfaction, technical quality, interpersonal manner, communication, financial aspects, time spent with doctor, and accessibility and convenience. Likert scale data were analyzed using descriptive statistics. Two independent evaluators analyzed additional qualitative feedback.

Results: During the study period, 231 families visited the Spinal Cord Clinic; 80 participated in the study. Patients and families reported the highest degree of satisfaction with interpersonal manner and communication and the lowest satisfaction with financial aspects and accessibility and convenience. Participants also provided comments about their clinic experiences.

Conclusions: Families were generally satisfied with their clinical care and aspects under the control of health care providers. The clinic has conducted follow-up visits virtually when possible to reduce the financial burden of in-person appointments.

Dr Chae is an orthopaedic surgery resident at the University of British Columbia. Dr Binda is a general surgery resident at the University of Ottawa. Dr Purtzki is a pediatric physiatrist at BC Children's Hospital and a clinical assistant professor at the University of British Columbia.

This article has been peer reviewed.

Background

Traditional hierarchical medical frameworks assumed physicians knew what was best for their patients and often left patients out of the decision-making process.[1] This medical model of care has been replaced with an increasingly patient- and family-centred model, where patients actively collaborate with their health care team to design and manage their treatment journey.[2] As a "desirable component of quality health care,"[3] the success of patient-centred care can be evaluated using tools such as patient satisfaction surveys and questionnaires.[4]

A variety of factors influence patient satisfaction. It has been positively correlated with trust in the health care team, interaction between doctors and patients, and perceived empathy of care providers.[5] The interpersonal skills of care providers[6,7] and wait times[7,8] also affect patient satisfaction and trust in the health care team. Other factors, such as lower socioeconomic status, have been negatively correlated with patient satisfaction.[9] In addition, patient satisfaction is positively correlated with treatment compliance[10,11] and positive health outcomes. Hence, evaluating patient satisfaction and eliciting feedback from patients helps care providers advocate for their patients' needs, respond to areas of dissatisfaction, and improve health outcomes.

Because patient satisfaction is multifaceted, it is challenging to evaluate. Many instruments for assessing patient satisfaction such as the Hospital Consumer Assessment of Healthcare Providers and Systems survey[12] and the Long-Form Patient Satisfaction Questionnaire (PSQ-III),[13,14] target the adult patient group. None of these questionnaires were designed to target a pediatric outpatient population. Therefore, we chose a validated, fairly generic instrument, the Patient Satisfaction Questionnaire Short Form (PSQ-18), which we modified to suit our clinic situation. The PSQ-18 allowed us to assess parents' and children's satisfaction in seven domains: general satisfaction, technical quality, interpersonal manner, communication, financial aspects, time spent with doctor, and accessibility and convenience.[15] The breadth of patient satisfaction domains assessed by the PSQ-18 sets it apart from other assessment tools. Moreover, the PSQ-18 is commonly cited in the literature[16] and has demonstrated versatility in diverse settings.[17-22] Consequently, we deemed the PSQ-18 to be a quick, easy, and comprehensive patient satisfaction questionnaire that was appropriate for a busy pediatric clinic setting.

We conducted this quality improvement project at the BC Children's Hospital Spinal Cord Clinic, a multidisciplinary clinic that treats complex congenital and acquired spinal cord conditions, such as spina bifida, closed spinal dysraphism, VACTERL syndrome (VACTERL association), sacral agenesis, and traumatic and nontraumatic spinal cord injuries. As the designated provincial service for children with spinal cord conditions, the Spinal Cord Clinic serves an average of 260 patients living across BC. The combination of significant geographic distances and a sparse population creates unique challenges for health care delivery. An internal project conducted at the Spinal Cord Clinic indicated that 25.2% of patients live between 30 and 80 km from the clinic; 43.1% live more than 80 km from the clinic. Many of our patients experience limited mobility, and some are on ventilators, which exacerbates the challenges of traveling great distances for in-person appointments. Another internal study reported that approximately 25% of families in pediatric surgical clinics at BC Children's live below the poverty line and experience many social vulnerabilities, which also affects patients' ability to access care. Given the barriers to care our patient population experiences, ensuring our patients' voices are heard and improving patient satisfaction are major priorities. We aimed to assess the various domains of patient satisfaction in our clinic's vulnerable patient population to improve their health outcomes.

Methods

Study design

The Spinal Cord Clinic team designed this quality improvement project in conjunction with the Office of Pediatric Surgical Evaluation and Innovation. Because this was a quality improvement project, it was exempt from Research Ethics Board review, according to "TCPS 2 (2018) – Chapter 2: Scope and Approach."[23]

Evaluating patient satisfaction and eliciting feedback from patients helps care providers advocate for their patients' needs, respond to areas of dissatisfaction, and improve health outcomes.

The PSQ-18 was originally developed using an English-speaking adult population.[15] Given our pediatric population and the multidisciplinary nature of the Spinal Cord Clinic, the research team modified the original PSQ-18 after careful review, prior to initiating the study. For example, the subject of each statement was changed from "I" to "my child," because parents typically completed the survey. Additionally, a statement about financial considerations was replaced with one that focused on communication, because previous research had extensively examined the financial situation of clinic patients. We also added two statements to the PSQ-18 survey to fit the goals of our study and to reflect the nature of the pediatric outpatient clinic. The study team also added a comments section where participants could provide open-ended feedback. The modified PSQ-18 survey was available in English only.

The full questionnaire and a comprehensive list of modifications and associated rationales are reported in the supplementary files available at bcmj.org.

Data collection

Patients who presented to the Spinal Cord Clinic from June to October 2019 were invited to complete the survey. Research assistants distributed printed surveys to patients and/or their caregivers after obtaining their informed consent. The survey included 20 statements.

Survey responses were transcribed and stored in a database in Microsoft Excel version 16.38 (Microsoft Corporation, 2020). Data were stored in a file encrypted with a password on a password-protected computer.

Data processing

Likert scale data collected during the survey were processed using the methods outlined by Marshall and Hays.[15] Descriptive statistics, including ranges, means, medians, and modes, were calculated for each statement. Microsoft Excel was used to adjust responses so that a score of 5 indicated a strongly satisfied response, while a score of 1 indicated a strongly dissatisfied response. Next, the 20 statements were grouped into seven domains of patient satisfaction: general satisfaction, technical quality, interpersonal manner, communication, financial aspects, time spent with doctor, and accessibility and convenience. We defined *technical quality* as patients' perceived competence of the specialists at the Spinal Cord Clinic. A Likert graph was created using R version 1.2.5033, 2019 (RStudio, PBC, 2019).

The qualitative responses patients left in the comments box were reviewed and coded by two research assistants (T.C. and C.B.) into positive or negative statements about the seven domains of patient satisfaction. Discussion between study team members resolved differences in comment classification between the two reviewers.

Results

In total, 80 of 81 families (98.8%) that were invited to participate in the study completed the anonymous survey. This represented approximately 35% of the total clinic population (n = 231) and was deemed a representative sample of that population.

TABLE 1. Description of unadjusted scores for each statement (*n* = 80).

Statement	Domain	Unadjusted score*				
		Min.	Max.	Median	Mean	Mode
Health care providers are good about explaining the reason for medical tests.	Communication	1	3	1	1.5	1
I think my child's health care providers have everything needed to provide complete medical care.	Technical quality	1	4	1	1.5	1
The health care my child has been receiving is just about perfect.	General satisfaction	1	4	2	1.8	2
Sometimes health care providers make me wonder if their diagnosis of treatment is correct.	Technical quality	1	5	4	3.6	4
The health care provider explains treatments in an easy way to understand.	Communication	1	4	2	1.6	2
When my child goes for health care, the provider is careful to check everything when treating and examining my child.	Technical quality	1	3	1	1.6	1
I have to pay more of my child's health care than I can afford.	Financial aspects	1	5	4	4.0	4
My child has easy access to the medical specialists in this clinic.	Accessibility and convenience	1	4	2	1.9	2
My child has trouble accessing emergency care in my community for spinal cord–related problems.	Accessibility and convenience	1	5	3	3.2	3
The clinic staff act too businesslike and impersonal toward my child.	Interpersonal manner	2	5	4	4.3	4
My child's health care provider treats my child in a very friendly and courteous manner.	Interpersonal manner	1	4	1	1.4	1
Those who provide my child's health care sometimes hurry too much when they treat my child.	Time spent with doctor	1	5	4	3.8	4
Health care providers sometimes ignore what my child tells them.	Communication	2	5	4	4.2	4
I have some doubts about the ability of the health care providers who treat my child.	Technical quality	2	5	4	4.3	5
Health care providers usually spend plenty of time with my child.	Time spent with doctor	1	5	2	2.0	2
I find it hard to get a clinic appointment at a convenient time.	Accessibility and convenience	1	5	4	3.8	4
I am dissatisfied with some of the things about the health care my child receives.	General satisfaction	1	5	4	4.0	4
I can get in contact with the clinic staff when my child needs.	Accessibility and convenience	1	5	2	2.1	2
The time spent in clinic is just about right.	Time spent with doctor	1	4	2	1.9	2
I am overall satisfied with the care my child receives at the Spinal Cord Clinic.	General satisfaction	1	3	1	1.5	1

* 1 = strongly agree, 5 = strongly disagree.

Table 1 provides unadjusted scores for each survey statement. For eight of the 20 statements, experiences on both extremes of the "agreement" scale were reported, with at least one participant reporting "strong agreement" and another reporting "strong disagreement" with the same statement.

The **Figure** shows the average score of responses in the seven domains of patient satisfaction. The greatest satisfaction was associated with "interpersonal manner" and "communication"; the lowest satisfaction was associated with "financial aspects" and "accessibility and convenience."

In total, 28 comments were left in the comments box at the end of the survey; they included 25 positive and 25 negative statements **[Table 2]**. The greatest number of positive statements were made in the domain of "general satisfaction" (*n* = 12). The greatest number of negative statements were made in the domain of "accessibility and convenience" (*n* = 12).

Discussion

To the best of our knowledge, the PSQ-18 survey has not been used in the setting of a pediatric spinal cord clinic, nor has it been used to evaluate clinics that share our multidisciplinary model of care. In our study, patients were encouraged to discuss their views of the Spinal Cord Clinic with their families and the clinic team. Providing pediatric patients with disability and their families with a platform to voice their opinions about their care contributes to the realization of Article 12 of the United Nations Convention on the Rights of the Child.[24]

The modified PSQ-18 survey we used was well received by patients and families, as evidenced by its excellent response rate. Several key strengths contributed to its success. First, its concise yet comprehensive design allowed participants to complete it efficiently, even within their busy appointment schedules. Second, the survey encompassed broad patient satisfaction aspects, which enabled a holistic assessment of the care provided. Finally, the inclusion of a comments section empowered patients to share their experiences in their own words, which ensured their voices were heard and valued.

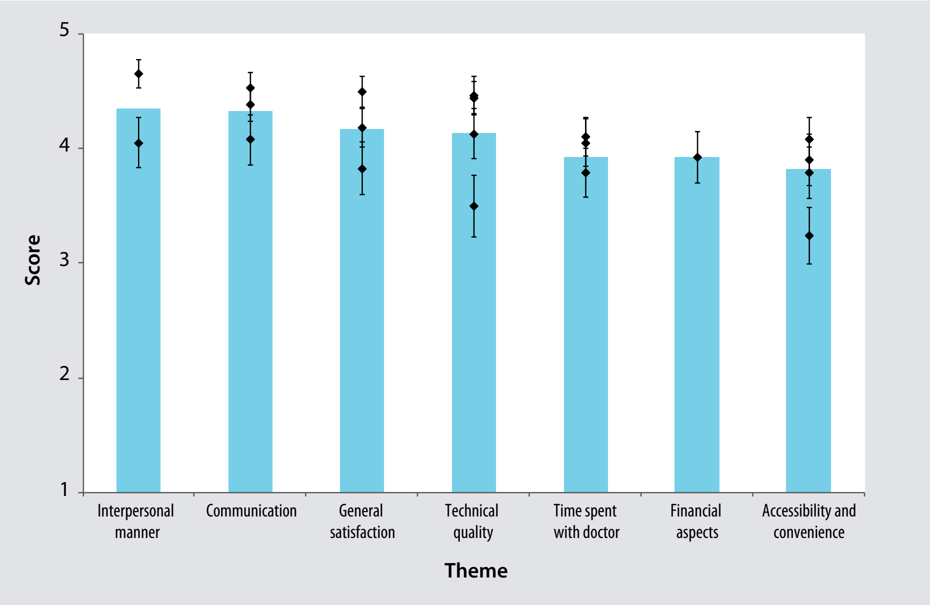

FIGURE. Mean score of seven domains of patient satisfaction. The error bars represent 95% confidence intervals.

The patients and families at the Spinal Cord Clinic reported the greatest satisfaction in the domains of "interpersonal manner" and "communication," the two domains over which the clinic has the most agency. Patients were most dissatisfied with "financial aspects" and "accessibility and convenience," the domains over which the clinic has the least agency. In the open-ended comments, patients reported the most dissatisfaction with "accessibility and convenience" and the most satisfaction with "general satisfaction." A caveat about the analysis of the open-ended comments is that the comments were not mandatory; therefore, not everyone left comments. As a result, the responses may not be representative of the entire group of participants in our study, let alone the entire clinic population.

Lower satisfaction in the domain of "accessibility and convenience" was not a surprise, because the Spinal Cord Clinic runs only 1 morning per week, and it serves a very large geographic area. There is little flexibility for families who are not available Thursday mornings. Scheduling conflicts with other clinics and the clinical responsibilities of the health care team outside of the Spinal Cord Clinic limit how responsive the team can be to concerns about accessibility and convenience of care. The PSQ-18 survey has been used in various studies in different settings, which demonstrates its versatility.[17-22,25,26] Other centres have also found that their patients reported the highest satisfaction with "interpersonal manner"[17] and the lowest satisfaction with "financial aspects"[17-19] and "accessibility and convenience."[17] While it is important to note that those studies were conducted in different clinical and cultural contexts, there is an opportunity for health care providers in different settings to collaborate to create solutions to address relatively low satisfaction in common domains, such as "financial aspects" of care.

Dissatisfaction with the financial impact of care, which can act as an obstacle for patients attending appointments, is often overlooked. Many families must travel a long distance to attend the Spinal Cord Clinic. Out-of-town patients may have to stay overnight in Vancouver, either with relatives or in hotels, and their caretakers may need to take time off work and pay for their overnight stay, transportation, food, and parking. Significant personal expenses, combined with socioeconomic hardship, may make attending the clinic a serious affordability issue. Some parents qualify for government or social service support because they live below the poverty line, but many are not eligible for additional financial support because their income is just above the cutoff for social services. This may explain parents' dissatisfaction with the "financial aspects" of the Spinal Cord Clinic. However, this is not a factor the clinic can control directly, although we try to connect families with financial resources whenever possible.

TABLE 2. Total qualitative comments by domain (*n* = 28).

	General satisfaction	Technical quality	Interpersonal manner	Communication	Financial aspects	Time spent with doctor	Accessibility and convenience
Positive statements	12	3	6	1	0	1	2
Negative statements	1	3	1	3	1	4	12

Study limitations

We adapted the PSQ-18 to better align with the unique patient population and clinical setting of the Spinal Cord Clinic and to enhance the survey's relevance and accuracy in assessing patient satisfaction; however, this may have influenced the questionnaire's original validity.

Additionally, we approached 81 of the 231 patients (35%) in the clinic's total patient population. While we invited patients who presented to the clinic consecutively to participate, our sample may not have been representative of all 231 patients and families. The reason for this is multifactorial. First, because this was the first study that assessed patient satisfaction at the Spinal Cord Clinic, we focused on determining whether the modified PSQ-18 survey was well suited to the clinic rather than on reaching a large sample size. Second, our recruitment was limited by logistical constraints and scheduling issues within the clinic. It was not feasible to recruit patients over the entire year. Patients attend the Spinal Cord Clinic with varying frequency, depending on their need. By using a shorter study interval, we were more likely to sample opinions from a different family at each clinic encounter.

Because the modified PSQ-18 survey is a general, multidisciplinary questionnaire, it did not allow for the assessment of patient satisfaction within specific medical specialties involved in patients' care. In the future, developing specialty-specific statements could provide a more detailed evaluation of the quality of care delivered by each discipline. This refinement would offer deeper insights into areas for improvement at the clinic, which would ultimately enhance the patient experience.

Last, because this was a pilot project for quality improvement in the Spinal Cord Clinic, we did not collect socio-demographic information, such as sex, household income, and distance of residence from the clinic. This limited our ability to analyze our results further and to establish any association between demographic variables and the results. We plan to collect this information in future studies.

Conclusions

We intend to use our modified PSQ-18 survey for future quality improvement studies. We will aim to include a larger sample size to represent the number of patients at the Spinal Cord Clinic and will develop more discipline-specific statements to gain insight into patients' perspectives on the care they receive from specific disciplines. We will also aim to collect socio-demographic information so our results can be more thoroughly analyzed.

We intend to use our modified PSQ-18 survey for future quality improvement studies.

Since this initiative was conducted, there have been significant disruptions to care provided at the Spinal Cord Clinic due to the COVID-19 pandemic. However, there have also been many positive changes at the clinic. First, discussions are being held between the Spinal Cord Clinic team and the hospital operational leads on potential improvements to the clinic structure, including the possibility of providing an extra clinic day and adding more clinical team members. This large-scale change will help address the accessibility issue that patients in our study noted. Second, the clinic plans to use internal funds to establish a bursary program for patients with financial constraints, in response to patients' dissatisfaction with financial aspects of attending the clinic. Last, virtual care using applications such as Zoom or Microsoft Teams has become much more acceptable since the pandemic, and the clinic team has pivoted to a hybrid model of in-person and virtual care. This has numerous potential benefits for the patient population, many of whom have difficulty ambulating. The Spinal Cord Clinic research team plans to launch another patient satisfaction quality improvement study as a follow-up to our initial project in 2019, this time focusing on patients' satisfaction with the hybrid model of care. The assessment of patient satisfaction reported in this study serves as a record of our prepandemic baseline patient satisfaction. By continuing to monitor patient satisfaction, we will be able to identify the long-term impacts of increasing access to virtual care and future quality improvement initiatives.

Summary

Quality improvement is a continuous process that demands ongoing evaluation and follow-up to ensure patients' needs and expectations are met. This study aimed to enhance care at the Spinal Cord Clinic by offering patients a platform to share their experiences. The modified PSQ-18 survey proved to be both adaptable and applicable across diverse health care settings, making it a valuable tool for assessing and improving patient satisfaction. We hope to see its adoption in other clinics to further advance patient advocacy and the delivery of patient-centred care. ■

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Competing interests

None declared.

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Cod intake masquerading as arsenic toxicity

In diagnosing arsenic poisoning, occupational or environmental exposure to arsenic must be considered, and urine arsenic levels must be interpreted with caution to ensure that chelation treatment is not given without cause.

ABSTRACT: Arsenic toxicity is a rare but well-documented cause of a common presenting complaint: peripheral neuropathy. The definitive diagnosis relies on urine arsenic levels, which must be fractionated into inorganic and organic species, the latter of which is not harmful but can be elevated transiently following the consumption of seafood. We present a case in which a patient presented with progressive sensorimotor neuropathy with diagnostic uncertainty. Spot urine arsenic testing revealed an elevated total, but not inorganic, arsenic level after the patient had consumed seafood the night before. Chelation therapy was initiated out of caution but was likely not warranted. This case highlights the importance of thoughtful clinical interpretation in conjunction with support from poison control to aid in the diagnosis and management of heavy metal toxicity.

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Arsenic is a naturally occurring element in the Earth's crust and is typically combined with oxygen, chlorine, sulfur (inorganic arsenic), or carbon (organic arsenic).[1,2] Inorganic arsenic has been recognized as toxic since ancient times and is classified as hazardous under the Canadian Environmental Protection Act.[3-5] While organic arsenic is generally less toxic, its effects on humans remain under-researched.

The most common source of human-ingested arsenic is drinking water.[6] Because arsenic dissolves readily, water that has come into contact with contaminated rocks and soil may be a source of toxicity. The ambient concentration of arsenic in surface water and groundwater in Canada is very low, usually 1 to 2 μg/L.[7-9] However, localized high concentrations of arsenic have been found in well water from several regions of British Columbia, almost always associated with arsenic-containing bedrock formations or contamination from mining or fracking.[8] Seafood may also contain arsenic, but it is predominantly the less harmful organic form.[10]

Exposure to high levels of inorganic arsenic can lead to acute or chronic health effects, including gastrointestinal distress, hepatotoxicity, neuropathy, and skin changes.[2,3,11,12] A symmetric, sensorimotor polyneuropathy that can sometimes mimic Guillain-Barré syndrome is one of the most prominent symptoms of arsenic poisoning; it can develop 1 to 3 weeks after acute high-dose poisoning or insidiously from chronic low-level exposures.[1,11,13] Biological samples for measuring arsenic include urine (most common), blood, hair, and nails. BC labs report the speciation of arsenic as both total and inorganic rather than speciating the organic subtype. An elevated urinary total arsenic level with a low inorganic arsenic level typically indicates nontoxic organic arsenic. This most commonly results from seafood consumption; even a single meal of fish, shellfish, or seaweed can significantly increase urine arsenic levels.[14-16] Based on the results of the longitudinal Canadian Health Measures Survey, the upper threshold for total urine arsenic is 27 μg/L—including both organic and inorganic forms.[17] For reference, a single serving of blue mussels or codfish can result in urinary excretion of more than 300 μg of arsenic over the 72 hours following consumption.[18,19]

The primary management of chronic arsenic poisoning involves identifying and eliminating the source. In the setting of acute toxicity in critically ill patients, early parenteral chelation therapy is recommended in addition to supportive care.[20] However, in BC, antidotes can be difficult to access due to challenges maintaining adequate stocks to ensure timely administration over a vast geographical area. In a 2003 study, less than 50% of urban BC hospitals had an adequate stock of the antidote to treat arsenic toxicity.[21] In addition, chelating agents are not without their own host of adverse effects, including depletion of vital elements such as copper and zinc.

We present a case in which a spot urine arsenic test led to the detection of elevated total, but not inorganic, arsenic levels, which resulted in potentially unnecessary chelation therapy. This article illustrates the importance of clinical expertise in guiding the interpretation of data, particularly as it relates to an uncommon toxidrome.

Case data

A 63-year-old female presented to an emergency department in Vancouver with a 6-month history of progressive weakness and neuropathic pain. She had had more than 20 presentations to hospital over the preceding 6 months, with a multitude of symptoms, including unresolving pain, diarrhea, and depression. Her symptoms had worsened severely in the 2 weeks prior to her presentation at the emergency department, leading to severe neuropathic pain, difficulty ambulating, and an inability to complete her activities of daily living. She also had a history of an unprovoked pulmonary embolism, hypertension, chronic diarrhea, and a bilateral salpingo-oophorectomy. Given her significant functional decline and depressive symptoms, she was admitted as an involuntary patient under psychiatric care.

The patient was seen by the neurology service 2 weeks following her admission. On examination, she was afebrile and vitally stable. Her neurologic examination demonstrated appropriate alertness, attention, and language. Her cranial nerve exam did not show any asymmetry. Examination of her lower extremities showed normal power but reduced proximal muscle bulk and decreased sensation to light touch and pinprick modalities bilaterally in a symmetric, stocking-glove distribution.

The patient underwent electromyography and nerve conduction studies, which demonstrated a length-dependent sensorimotor axonal neuropathy with evidence of active neuropathic denervation. Her lab results demonstrated a normal vitamin B12 level, no monoclonal protein present on serum or urine protein electrophoresis, and a normal ratio of free light chains. Glycated hemoglobin was 5.3%. Serologies for HIV, hepatitis B and C, and syphilis were protective. MRI of the spine did not demonstrate any spinal cord, nerve root, or leptomeningeal process. At the time, a unifying systemic condition (such as a malignant or paraneoplastic syndrome) was favored, given the history of unprovoked pulmonary embolism and significant weight loss, but the differential diagnosis remained broad, including inflammatory, metabolic, and nutritional etiologies. In light of the patient's severe depression and gastrointestinal symptoms, in addition to further workup, a heavy metal screen (including spot urine arsenic levels) was sent from the referring hospital to In-Common Laboratories, an accredited Canadian medical laboratory referral testing service, and was processed at the London Health Sciences Centre. Two weeks later, poison control directly notified the team that the urine total-arsenic-to-creatinine ratio was elevated, at 2133 μmol/mol creatinine (reference range: ≤ 93 μmol/mol creatinine). While speciation of the inorganic arsenic level was underway, the patient was initiated on chelation therapy with 2,3-dimercapto-1-propanesulfonic acid, with support from poison control and toxicology. Notably, only 20 doses were available in the Lower Mainland, and Health Canada Special Access approval was required to mobilize further drug supply from Germany. Special Access application for oral chelating agent 2,3-dimercaptosuccinic acid was approved and made available 4 days after the initiation of chelation therapy, and the patient continued on weight-based dosing at 800 mg by mouth 3 times per day. One week after starting chelation therapy, her inorganic arsenic levels returned to normal, at 18 μmol/mol creatinine (reference range: ≤ 21 μmol/mol creatinine).

An elevated urinary total arsenic level with a low inorganic arsenic level typically indicates nontoxic organic arsenic. This most commonly results from seafood consumption; even a single meal of fish, shellfish, or seaweed can significantly increase urine arsenic levels.

On further history, the patient did not report any history of travel, well-water exposure, use of herbal supplements, exposure to pesticides or herbicides, or changes in where she obtained her poultry, meat, or fish. There were no reports of similar symptoms among her family or neighbors.

Given that organic arsenic levels typically have negligible toxic effects and can be elevated due to the intake of seafood, we elected to send confirmatory tests with 24-hour urine and hair arsenic levels to the Mayo Clinic Laboratories; arsenic was undetectable. With this in mind, we spoke with food services at the admitting hospital and found that the evening before the patient's fractionated urine arsenic levels were sent, she was served cod, which could explain the acute elevation in organic arsenic.

The patient experienced only minimal improvements in her symptoms following initiation of chelation therapy in addition to supportive therapies. She was ultimately transferred to an inpatient neuromusculoskeletal rehabilitation centre for ongoing care. Given the degree of diagnostic uncertainty, she received a sural nerve biopsy, which demonstrated an active inflammatory neuropathy with areas of focal microvasculitis. She was later treated empirically with 5 days of IV methylprednisolone and IV immunoglobulin with a subsequent extended prednisone taper and continued to experience subtle improvements in her strength and sensation.

Discussion

Peripheral neuropathies are among the most common neurological diseases, affecting 77/100 000 individuals per year and up to 30% of older adults.[22] In Western countries, the most common causes of peripheral neuropathy are diabetes, toxic exposure (e.g., alcohol, chemotherapy), and inflammatory or immune-mediated conditions. In the US, between 10% and 20% of cases are classified as idiopathic.[22] Necessary laboratory testing includes complete blood count, erythrocyte sedimentation rate, comprehensive metabolic panel (blood glucose, glycated hemoglobin, renal function, and liver function), thyroid function, vitamin B12 level, and serum protein immunofixation. However, in a subacute or rapidly progressive peripheral neuropathy, a more extensive history and tailored laboratory testing should be considered on a case-by-case basis.

Chronic low-level inorganic arsenic exposure is a known carcinogen and has been associated with an increased risk of bladder, lung, and skin cancer.[23] In the acute period, individuals may experience skin changes, hepatotoxicity, cardiovascular dysrhythmias, and/or sensorimotor neuropathy.[11] However, the symptoms of arsenic toxicity can vary widely depending on the chronicity and dose of exposure. According to the World Health Organization, there is no universal definition of the disease, which challenges our ability to make an efficient and accurate diagnosis.[24] Worldwide, hundreds of millions of people are chronically exposed to clinically meaningful inorganic arsenic concentrations in their environment, which stresses the value of an accurate and thorough history of environmental and occupational exposures.[25,26] Kawasaki and colleagues described the delayed development of predominantly sensory polyneuropathy in patients exposed to environmental arsenic following mining activities in Toroku, Japan.[27]

The diagnosis of arsenic toxicity can be further evaluated by obtaining arsenic concentrations from biological samples, including urine, blood, hair, and fingernails. A 24-hour urine arsenic collection is considered the gold standard but can be cumbersome to obtain. Thus, the most commonly used measure is spot urine arsenic levels, which are typically normalized to the concentration of creatinine. An important consideration in using urine arsenic testing is speciation of organic and inorganic forms to avoid misdiagnosis of arsenic poisoning in a patient exposed to the nontoxic organic form. Most laboratories run the total urine arsenic level and perform reflexive speciation only if the total level is elevated.

There are notable challenges in both access to and interpretation of timely diagnostic test results, as well as the initiation of treatment, which highlights the need for improved education and clinical support for physicians who face this clinical scenario.

In addition, speciation results can be reported in different ways (e.g., total and inorganic, organic and inorganic, methylated and inorganic), which complicates the clinician's ability to interpret the results. Additionally, BC practitioners have to send urine arsenic tests to a central laboratory for processing (London Health Sciences Centre, London, Ontario; In-Common Laboratories, North York, Ontario). In the case we have reported, 15 days had elapsed between collection of samples and receipt of a preliminary deranged result.

If the urine total-arsenic-to-creatinine ratio is elevated, with low or normal levels of inorganic species, the urine arsenic was likely derived from the nontoxic organic metabolites. The most likely sources of organic arsenic include dietary sources such as seafood, shellfish, wild mushrooms, and rice, which can elevate the total, but not inorganic, level of urine arsenic.[10,14,15,28] However, reflexive assays may take time to be reported, which can lead to premature initiation of chelation therapy. The inappropriate use of 2,3-dimercapto-1-propanesulfonic acid can lead to adverse effects, including gastrointestinal problems, skin reactions, cytopenias, and elevated liver enzymes, as well as deficiency of other elements, such as copper and zinc. In addition, provincial availability of the arsenic antidote, dimercaprol, is limited, particularly in rural areas, where antidote supplies are more likely to be insufficiently stocked. This situation may place poisoned patients at risk of avoidable morbidity or mortality.

To mitigate these adverse effects, tests for arsenic levels should be ordered only in conjunction with a thorough history of any exposures to aid in developing a pretest probability for acute or chronic arsenic toxicity. Urine arsenic levels should always be speciated and interpreted with the support of clinical toxicologists or poison control to reduce the risk of acting prematurely on false-positive results.

Summary

Peripheral neuropathy is a common presenting complaint with a host of etiologies. Rarely, this can be caused by heavy metal toxicity. A symmetric, sensorimotor polyneuropathy is one of the most prominent symptoms of arsenic poisoning and can develop from both acute and chronic exposure. To make the diagnosis of arsenic poisoning, clinical suspicion must remain high in patients with occupational or environmental exposures, but urine arsenic levels must be interpreted with caution to ensure that chelation treatment is not given without cause. We have presented a challenging diagnostic case of severe axonal peripheral neuropathy where elevated total organic arsenic levels were detected, likely in the context of seafood intake. Given the debilitating neuropathy that caused paraplegia and dysautonomia with severe orthostasis, which prevented the patient from engaging in any active rehabilitation therapy, chelation therapy was initiated promptly based on the urine total-arsenic-to-creatinine ratio. After inorganic arsenic levels returned to normal 1 week later, chelation therapy was deemed unnecessary. There are notable challenges in both access to and interpretation of timely diagnostic test results, as well as the initiation of treatment, which highlights the need for improved education and clinical support for physicians who face this clinical scenario. ■

Competing interests

None declared.

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Goal-concordant surgical care for patients: General surgeons' experiences of palliative care

Surgeons may be reluctant to provide palliative care for patients due to emotional and professional fatigue, lack of ability, and a lack of integrative palliative care programs.

ABSTRACT

Background: Palliative care is not yet routinely integrated into surgical services in Canada, for a variety of complex reasons. We explore the understanding of modern palliative care among British Columbia general surgeons and its potential role for their patients.

Methods: Surgeons were invited to participate in semi-structured interviews. Thematic analyses were conducted via interpretive description in an iterative approach.

Results: Eleven interviews were conducted. Three overarching themes were identified: (1) palliative care in surgery is important, but not all surgeons are willing and/or able to engage in providing it; (2) caring for seriously ill patients causes professional and emotional fatigue; and (3) the absence of integrative palliative care programs in the community results in learned helplessness and surgeon burnout.

Conclusions: General surgeons' concept of palliative care focuses on noncurative trajectories and represents a stagnant concept. Empathic, goal-concordant patient–physician conversations regarding surgical care paradigms are hindered by perceptions of resource limitations in a strained health care system.

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Background

The practices of general surgeons have traditionally been rooted in the imperative to relieve pain and suffering. However, as surgical innovations have grown in sophistication, palliation and cure have grown into diverging medical philosophies, and surgeons have not consistently explored basic palliative principles alongside active disease management, while not considering goals-of-care discussions until standard treatments are considered futile.[1-3] Physicians' erroneous assumptions of patients' goals drive prolonged and unwanted life-sustaining treatments at a high cost, both financially and morally.[1,2]

Shared decision making is a fundamental tenet of surgical care.[3-5] Despite robust evidence demonstrating significant benefits and improved patient outcomes from early and simultaneous integration of palliative care with disease-directed treatment,[5-7] there has been little uptake within the general surgical community.[8-10]

The palliative approach to care includes basic symptom management, good communication, and coordination of multidisciplinary care. It is a responsibility of all health care professionals. Where needs are complex, a specialist palliative care professional may be necessary, but they are in limited supply, particularly in rural and remote areas. Many patients also lack family doctors, which places pressure on specialist services' capacity. Surgeons are therefore required to provide at least basic palliative care as a core competency.[11] They need to transparently discuss the probabilities of different outcomes and negotiate the challenges of achieving patient goals, in addition to juggling their workload. An increasing number of publications detail the impact of demands on Canadian physicians in a health care system crippled by limited resources and burgeoning documentation requirements, which is contributing to moral distress, burnout, and postpandemic fatigue.[12-14]

Methods

The research team consisted of clinicians at the University of British Columbia in general/surgical oncology (C.W.L.), surgical education/surgical oncology (R.C.), palliative care (P.H.), general surgery residency (K.M.T.), and undergraduate studies (J.Z.).

Participant recruitment

BC general surgeons were contacted via email in 2020 and invited to complete an anonymous computer-based survey that explored training, clinical experiences, and self-perceived competency in goals-of-care discussions and end-of-life care (data available from the corresponding author upon request). The survey was used to garner interest in and encourage thoughtful consideration of personal experiences of clinical palliative care and assess interest in participating in semi-structured interviews. The survey data did not inform interview responses because participants were de-identified, and the survey data do not correlate with interview data.

Interview procedures

The interviewers (C.W.L., J.Z., and K.M.T.) asked open-ended questions related to exposure to palliative care as a surgical trainee, formal palliative care or enhanced communication skills training, specialist palliative care engagement, understanding of palliative care services as they apply to surgical patients, and current access to palliative care for patients.

Confidentiality was maintained by de-identifying interviewees prior to data analysis and reporting aggregate responses only. Interviews were audio- or video-recorded and were transcribed verbatim. All recordings were stored in password-encoded software available only to the study coordinators. Interviewee demographics were not collected to protect participant confidentiality and to be consistent with qualitative thematic analysis using interpretive description, as described by Thorne and colleagues.[15] This method emphasizes the generation of clinically relevant information through the interpretation of themes derived from the data rather than on demographic variables, in which the goal is to capture the richness and complexity of human experiences that transcend demographics.

The transcripts were manually reviewed for accuracy through line-by-line comparison with audio recordings and were analyzed via thematic analysis of interpretive description, as described by Thorne and colleagues.[15] We met virtually and in person on numerous occasions to discuss, review, and refine themes after each interview was conducted and upon completion of all interviews. The study included all participants who were available and willing to participate in interviews. In keeping with interpretive description thematic analysis, sample size is reflective not of generalizability but rather of the depth of relevance of the insights derived from patterns across participants.[15]

Ethics board approval was obtained from the BC Cancer Research Ethics Board in 2020.

Results

Eleven semi-structured interviews were conducted with surgeons. Three distinct themes emerged:

1. Palliative care in surgical care is important, but not all surgeons are willing and/or able to engage in providing it.
2. Caring for seriously ill patients causes professional and emotional fatigue.
3. The absence of integrative palliative care programs in the community results in learned helplessness and surgeon burnout.

See the **Table** for surgeon quotes by theme.

TABLE. Representative quotes by thematic analysis.

Themes	Representative quotes
1) Palliative care in surgical care is important, but not all surgeons are willing and/or able to engage in providing it.	“We want patients to have support, but I don’t think most surgeons have the interest in doing that. What we need to get better at or feel more confident about is … introducing palliative care.” (ID8) “I don’t really see my role as sort of trying to mobilize all the support resources … I just don’t have the time.” (ID3) “So, I think you need to be involved in bringing up the conversation and then handing it off to someone.” (ID4) “You don’t have time talk to someone, because you’re busy. And, you know, you can avoid difficult … or uncomfortable things.” (ID7) “It’s just like that really wears on you, like you feel like you’re the Grim Reaper. If I wanted to be a palliative care doctor, then I would have gone and done that.” (ID2)
2) Caring for seriously ill patients causes professional and emotional fatigue.	“Many times, it just comes sort of too late. And I would say help make that transition from trying to … cure the disease … to more … acceptance, that we have limitations.” (ID9) “If you spend every day you have [in] an intense conversation with a 35-year-old woman about their advanced breast cancer, it just is dreary, hard to remain optimistic, especially with a limited pandemic.” (ID2) “And I’m left feeling like ‘Hey, I’m making this final decision,’ you know, for this … this poor girl. I couldn’t make that decision. And I was like ‘I can’t deal with this. I really cannot deal with this at all.’” (ID1)
3) The absence of integrative palliative care programs in the community results in learned helplessness and surgeon burnout.	“I just find that many times, it just comes sort of too late, where a lot of the services could have been better utilized.” (ID11) “You actually have to demonstrate to that person that you see them as a complete and whole person … and to do that properly, you actually have to give a little bit of yourself every time.” (ID2) “I don’t even want to discuss, like, you know, especially if I’m about to operate on someone, I get all uncomfortable talking about the CPR and the code status … I just feel like it almost sells the situation wrong and I’m left feeling stuck.” (ID5) “And then I keep finding that nobody’s had these conversations with people. So it makes it really hard when it’s sort of the last hour, where people will make a real educated decision.” (ID8) “But sometimes I’m stuck doing it. And it’s not something I do frequently. So it actually takes me quite a bit of time, and I’m tired.” (ID10)

Palliative care in surgery

Participants echoed the importance of a palliative approach to care for patients with critical or life-limiting illness. There was unanimity on the need for palliative care services at the end of life, to transition into hospice, or when cure was unachievable. Surgeons rarely initiated discussions about including a palliative approach to care as part of treatment goals. Many surgeons believed palliative care equated to end-of-life care.

Surgeons described scenarios in which palliative care services were offered when no other treatment options seemed clinically reasonable. None of the participants described experiences in which palliative care services were introduced and integrated early during treatment. Many participants discussed experiences with patients in emergency scenarios who did not understand the severity and life-limiting nature of their disease prior to presentation to the emergency room, hence having no framework for the illness they were experiencing. In cases where patients were told what diseases they had, palliative care was rarely incorporated into their treatment plans unless disease-modifying treatment options were no longer deemed suitable. Participants shared experiences in which they felt reluctant to use the term *palliative* for fear of alienating patients or obliterating hope.

Due to a lack of awareness of the resources available within the hospital or immediate community, many surgeons rarely initiated discussions about the purpose, benefits, and rationale of palliative approaches to care, even when appropriate. "I don't think most surgeons have the interest in doing that. What we need to get better at or feel more confident about is, like, introducing palliative care. So, we need to know what's involved, but the breaking of bad news . . . do not shy away from that . . . we need to do better introducing people to die." (ID8)

Professional and emotional fatigue

Participants were aware of their patients' suffering. They shared stories about how patients felt dismissed by the health care system prior to developing acute illnesses and how some patients could have felt marginalized by the lack of care and continuity in their communities. Many surgeons expressed strong commitments to whole patient care but found it personally challenging due to a lack of time, unfamiliarity with referral processes, and a lack of awareness of community resources.

The rarity of these conversations perpetuates the misconception that palliative care is relevant only close to end of life, when it offers a holistic approach in the treatment and support of patients with serious illnesses from the time of diagnosis.

Implementing palliative care services was consistently viewed as needing to be provided only when surgery was no longer safely recommended or was considered futile. This notion was in keeping with the opinion that palliative approaches are mutually exclusive with active treatment. Unwillingness to engage in end-of-life conversations was also due to the sentiment of misplacement of responsibility onto the surgeon. Participants recalled these conversations as chaotic and emotionally charged, leaving fragments of guilt and distress after engaging in life-modifying conversations.

"And so you've tried everything. And that's when you quit looking at the patient as a whole, and how they're doing and what their goals there might be, looking at the broader picture. . . . These activities are really, incredibly invasive indicates a painful and possibly not effective intervention, [which] would be offering them the opportunity to talk to someone about quality of life rather than, you know, going full bore to the end, and then [we are] just exhausted . . . from what we've done to them." (ID4)

Learned helplessness

While acknowledging the importance of using an integrated palliative approach to care, general surgeons did not express interest in additional learning opportunities to develop communication skills targeted at advance care planning and goals-of-care discussions. Many participants readily discussed the availability of specialist palliative care consultants in their hospitals but knew little about the community palliative care resources available. The principal reason for this was the conflicting demands of workload, but respondents also revealed that they referred late, if ever.

"When I've kind of maxed out where I feel comfortable going with medications, getting someone to . . . come and offer advice for that beyond just kind of the standard cocktail, you know, when you [start] having to adjust, I think there's often been an inappropriate delay at our site. And in that . . . regard, just because, again, there's not somebody dedicated to a palliative care service here." (ID10)

Supplementary data are available from the corresponding author upon request.

Discussion

General surgeons in this study expressed a genuine desire to provide whole patient care; however, they did not feel it was their responsibility. There was discomfort and a lack of knowledge about how to connect patients with community palliative care resources and reluctance to have goals-of-care conversations. Low comfort levels derive from multilayered negative personal and interprofessional experiences.[16] Our study revealed that most general surgeons said they were comfortable with their skills in discussing prognoses, death, and surgical outcomes; however, they had little interest and motivation in actually doing so. Surgeons conveyed strong notions of burden in engaging in quality-of-life discussions, adding that they were already overwhelmed by the demands of their existing practices and responsibilities.

Until recently, palliative care discussions were rarely taught in traditional surgical training.[17] Participants in this study expressed feeling distress, uncertainty, and frustration with the health care system regarding access to and support provided by palliative care services when needed. These conversations involved near-death or end-of-life situations. The rarity of these conversations perpetuates the misconception that palliative care is relevant only close to end of life, when it offers a holistic approach in the treatment and support of patients with serious illnesses from the time of diagnosis. Recognition of this outdated misperception is an opportunity for re-engagement and education.

Eliciting patient goals during emergencies in which there is no pre-existing therapeutic relationship between patient and surgeon can be particularly taxing. The best-case/worst-case framework for high-risk decision making offers a useful tool that can be applied in the emergency department or clinic.[18] Its success, however, depends on provider empathy, willingness to practise, and time spent building the surgeon–patient relationship. A recent systematic review of 18 studies on the outcomes of communication skills training among surgeons indicated that palliative care training interventions, both objectively and subjectively improved surgeons' confidence in communication, knowledge, and skills in symptom management.[18]

The "10 000-hour rule" of deliberate practice famously describes what many surgeons have learned over years of training: that it takes a lot of practice to be good at complex technical tasks.[19] To generate the same "muscle memory" with communication skills, the same degree of training and education should be considered for nontechnical skills. Surgical training programs across North America have adopted palliative care curricula since the early 2000s;[20,21] however, the implementation and success of these programs remains variable and limited.[22] Surveys of surgery residents revealed that although the level of clinical exposure to palliative care principles appeared adequate, many perceived that their education was not appropriately matched to their level and duration of training.[17,23] Continuing medical education on palliative care principles to support surgeons currently in practice is rare.[17]

Opportunities to guide changes in surgery practice paradigms include establishing workplace policies and advocacy programs . . . , providing leadership by surgeon-led teams in collaborations and training programs, and creating formal mentorship models championed by surgeon advocates.

Mentorship and active role modeling have more impact than didactic teaching and have been shown to impart meaningful, practice-changing habits among trainees and junior staff.[24]

The surgeons we interviewed tended to focus on the deficits of the health care system. Workplace culture and regional disparities across the province negatively affected surgeons' willingness to initiate early conversations with their patients. The overwhelming sentiment was that referral to a palliative care specialist was the most efficient and streamlined approach to care. The shortage of palliative care specialists and trained family doctors was perceived as a failing of the health care system rather than a missed opportunity to fill the gap as a member of the provider community. Surgeons wanted specialist colleagues and teams to be responsible for facilitating complex decision making and emphasized that engaging in emotionally laden goals-of-care discussions was not viewed as legitimate general surgery "work." Disinterest was often linked to past experiences that involved deep feelings of stress, which subsequently resulted in depersonalization.

It is well established that stressors in the health care workplace contribute to dissatisfaction, burnout, attrition, and, in extreme scenarios, suicidal ideation.[24] Moral distress among surgeons exists on multiple levels, including individual, interpersonal, environmental, and community, as well as in policy.[25] Extrinsic protective factors were identified as having ethics training, early access to specialist palliative care support, more frequent discussions about goals of care, team collaboration, and colleague support.[25] When applied in appropriate and supportive scenarios, improved familiarity, training, and collegial support may alter a surgeon's perception of their role and their abilities to conduct effective goals of care within their communities.[25]

Conclusions

Successfully navigating difficult conversations with surgical patients remains a responsibility of the surgeon. Although this study presents a unique reflection on a specific Canadian experience, the themes we identified are in keeping with the sentiments of surgeons globally regarding the consequences of limited health care resources. There is little disagreement that palliative approaches to care benefit surgical patients. Surgeons' discomfort, unfamiliarity, and perception of inconvenience with goals-of-care discussions may be overcome by standardizing national training curricula that yield equivalent Royal College competency requirements in simple symptom management, with an emphasis on goals-of-care conversations, and in technical skills. Opportunities to guide changes in surgery practice paradigms include establishing workplace policies and advocacy programs that influence health policy to improve patient care, providing leadership by surgeon-led teams in collaborations and training programs, and creating formal mentorship models championed by surgeon advocates. Collectively, these efforts may facilitate the changes required by surgeons to adapt to evolving practice paradigms for improving overall patient care. ■

Competing interests

None declared.

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Ten-year anniversary of the Truth and Reconciliation Commission of Canada’s Calls to Action: Truth telling in public health

> “We cannot reconcile until the truths are talked about. Until the truths are dealt with. What are the truths that have happened to our people over the last 150 years?! Well, we don’t want to talk about it because it’s not a good subject. But it is one that has to be done.”[1]
>
> — Debra Sparrow, Musqueam weaver, artist, and Knowledge Keeper

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We acknowledge the Title and Rights of BC First Nations who have cared for and nurtured the lands and waters for all time, including the xʷməθkʷəy̓əm (Musqueam) Nation, Sḵwx̱wú7mesh Úxwumixw (Squamish Nation), and səlilwətaɬ (Tsleil-Waututh Nation), on whose unceded, occupied, and ancestral territory the BC Centre for Disease Control is located. We recognize the Musqueam, Squamish, and Tsleil-Waututh Nations’ historical and ongoing relationships with these lands that continue to this day.

As a provincial organization, we recognize and acknowledge the inherent Title and Rights of BC First Nations, whose territories stretch to every inch of the lands colonially known as British Columbia.

We also recognize that BC is home to many First Nations, Inuit, and Métis people from homelands elsewhere in Canada and having distinct rights, including rights to health, that are upheld in international, national, and provincial laws.

As Canada prepares to mark 10 years since the Truth and Reconciliation Commission of Canada’s final report was published, it provides an opportunity to review progress on the Calls to Action, and for public health to reflect and engage in truth telling about Indigenous-specific racism and discrimination in past and present work.

Upholding land-based laws

First Nations territories stretch to every inch of the lands colonially known as British Columbia. Land- and water-based legal systems have operated on these territories for thousands of years, disrupted by forced imposition of settler colonial laws starting in the 1770s.[2] Fast-forward to 2019, when BC signed the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) into law and made it clear that recognition of legal pluralism is key to the way forward (UNDRIP Article 27).[3] Settlers are accustomed to simultaneously engaging federal, provincial, and municipal legal systems; now, we have legal obligations to BC First Nations legal systems as well.

In 2023 and 2024, respectively, BC’s Provincial Health Services Authority and BC Centre for Disease Control (BCCDC) senior leadership were gifted six Coast Salish laws by Coast Salish Knowledge Keeper and Honorary Doctor of Original Laws, Te'ta-in (Shane Pointe).[4] The first law is *Thee Eat* (“Truth”). Te'ta-in shares, “You need to say the truth all the time. How you act and show up must be truthful. We need to be truthful in our work, and we need our truth to be heard and not denied. We all must not deny the truth of the history and we must remain committed to addressing it.”[5]

Truth before reconciliation

This year, we mark a milestone of truth telling in Canada. Compelled by the largest class-action lawsuit against Canada in history, in December 2015, the Truth and Reconciliation Commission of Canada released its final report, documenting the testimony of thousands of survivors of the residential school system.[6] Among its 94 Calls to Action is Call to Action #18, requiring ongoing truth telling related to Indigenous health and wellness:

- Truth and Reconciliation Commission of Canada Call to Action #18: “We call upon the federal, provincial, territorial and Aboriginal governments to acknowledge [*thee eat*] that the current state of Aboriginal health in Canada is a direct result of previous [and current] Canadian government policies, including residential schools, and to recognize and implement the health-care rights of Aboriginal people as identified in international law, constitutional law, and under the Treaties.”[6]

This call is echoed and amplified in other health care–specific reports,[7] including the BCCDC’s own 2024 Action Plan for Reconciliation:

- *In Plain Sight* recommendation #22: “That the B.C. government, in consultation and co-operation with Indigenous peoples, consider further truth-telling and public education opportunities that build understanding and support for action to address Indigenous-specific racism in the health care system; supplemented by a series of educational resources, including for use in classrooms of all ages and for the public, on the history of Indigenous health and wellness prior to the arrival of Europeans, and since that time.”[8]
- British Columbia Cultural Safety and Humility Standard, section 1.1.1: “The organizational leaders develop an anti-racism and cultural safety and humility position statement that acknowledges the harm done to First Nations, Métis, and Inuit peoples by racism and discrimination and outlines the organization’s commitment to addressing Indigenous-specific racism and discrimination.”[9]
- BCCDC Action Plan for Reconciliation, section 1.1.1 (unpublished internal document): “Enhance our understanding of the role of public health and BCCDC in the history of colonization and the ongoing experiences of racism within the healthcare system.”

Thee Eat Initiative of Indigenous-Specific Racism and Discrimination in Public Health

The truth that must be made visible is that Indigenous-specific racism is deeply embedded within public health structures, policies, practices, norms, and values in BC. Some examples shared in the BCCDC’s *Thee Eat* Initiative of Indigenous-Specific Racism in Public Health are summarized in the **Figure.**

Until we acknowledge the truth, we will be unable to reset relationships with the First Peoples of these territories, as well as with Indigenous Peoples (including First Nations, Inuit, and Métis people from homelands elsewhere in Canada) who now reside in BC. Each has inherent rights to the highest standard of health and health care (UNDRIP Article 24).[10] This must be both an individual and a collective journey to identify and eradicate Indigenous-specific racism and discrimination within all aspects of BC’s population and public health system.

A call to public health

Nearly 10 years since the release of the Truth and Reconciliation Commission’s report, Canadian institutions—including public health systems—have yet to advance the Calls to Action in a demonstrated, transformative, accountable, and sustained way.[11] Instructions provided in this and other reports since represent lifesaving solutions to health care disparities through

Epidemics as tools of settler colonialism

Example: The 1862 smallpox epidemic paved the way for settlement of BC. The Government of BC has acknowledged that there is considerable evidence it was spread deliberately.

Potential of population and public health champions

Example: Dr Peter Bryce whistleblowing about deaths at residential schools.

Settler colonialism and Whiteness creating new health risks

Example: Colonially caused climate change.

Roots of public health in White supremacy and Indigenous-specific racism

Example: ”Indian health services” were set up for the protection of the White population, including segregated ”Indian hospitals,” which were separated by race, not disease.

The water invites reflection. At first glance, we are struck by its beauty. However, it does not give us a full picture of the health of the watershed and its inhabitants (people, plants, and animals). Below the surface, at a cellular level, and in what is reflected, we begin to see the impact of settler colonialism: decisions made without involvement of First Peoples of these territories meant to benefit settlers (e.g., dams, mining waste, development, industrial production waste, sewage, fertilizers, pesticides, fish farms, micro-plastics) that have profound consequences for the health of the people, the land, the waters, the plants, and the animals.

FIGURE. Reflecting on elements of the relationship between public health and settler colonialism, Indigenous-specific racism, and White supremacy.

fully upheld Indigenous rights. The Truth and Reconciliation Commission named UNDRIP as the framework for reconciliation.[6] The ensuing provincial legislation of the Declaration on the Rights of Indigenous Peoples Act led to the *Declaration on the Rights of Indigenous Peoples Act Action Plan*, which calls for full implementation of the *In Plain Sight* recommendations.[3] The *In Plain Sight* recommendations begin by calling for an apology and leadership commitment:

- *In Plain Sight* recommendation #1: “That the B.C. government apologize for Indigenous-specific racism in the health care system, setting the tone for similar apologies throughout the health system, and affirm its responsibility to direct and implement a comprehensive system-wide approach to addressing the problem, including standardized language and definitions, and clear roles and responsibilities for health authorities, regulatory bodies, associations and unions, and educational institutions.”[8]

Grounded in the principle of truth before reconciliation, an apology and leadership commitment mark initial steps in acknowledging the *thee eats* (“truths”) already shared by Indigenous Peoples and public health’s responsibilities in relation to them. This includes acknowledging that Indigenous-specific racism and discrimination exist in our population and public health system—it is systemic and structural. If we haven’t done anything about it, then the truth is it’s still there. Working to identify, name, and untie those “settler-colonial knots” that continue to harm Indigenous people is our responsibility.[12]

We see the value in the extremely reasonable request that BC public health institutions and the people within them engage in individual and collective self-reflection about the truths and our participation in harm caused to First Nations, Inuit, and Métis Peoples under the guise of public health since contact. We acknowledge that words without commitments or actions are meaningless.

Jody Wilson-Raybould (Puglaas) of the We Wai Kai First Nation has guided all Canadians to undertake three tasks—to learn, to understand, and to act—to reach “true reconciliation.”[13] Without intervention, Indigenous-specific racism remains intact and active in our systems. What follows will be continual work to recognize, name, and act to untie the “settler-colonial knots” embedded in the structures, policies, practices, norms, and values of our organization until we have successfully eradicated Indigenous-specific racism.[12,14] We accept this as everyday work requiring everyday attention. ■

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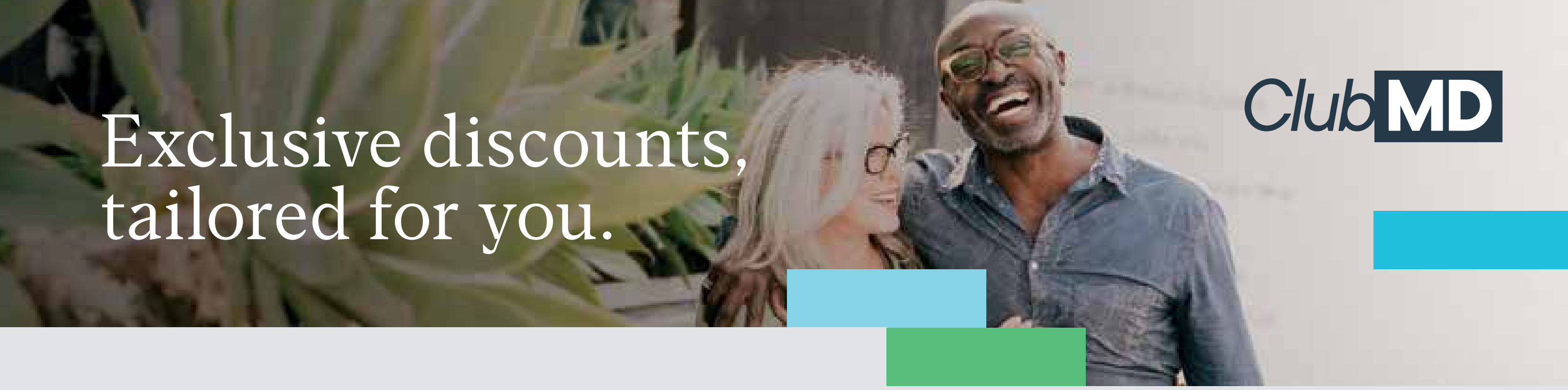

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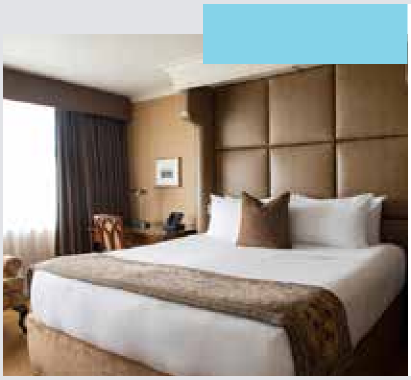

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Climate change and mental health: A critical intersection

Climate change is an “unappreciated mental health emergency” with inequitable impacts.[1,2] Climate-related disasters like wildfires, hurricanes, and heat waves disrupt lives, communities, and access to the land.[2,3] Slow-moving disasters like rising sea levels and drought lead to displacement, migration, and the loss of landscapes and biodiversity; the anticipation of future climate impacts further harms mental health.[2,3]

As the primary driver of the climate crisis, poor air quality from fossil fuel combustion is associated with increased risk of depressive, anxiety, and neurodegenerative disorders, as well as relapse of psychotic illness.[3] Extreme heat is linked to heightened aggression and violence, higher suicide rates, and elevated risk of morbidity and mortality for those with mental disorders.[3] Globally, mental illness attributed to climate-related threats, air pollution, and poor green space access is predicted to cost US$47 billion per year by 2030.[4] Populations impacted by changes to the land, such as Indigenous populations; agricultural and outdoor workers; and youth, refugees, immigrants, and those with lower socioeconomic status are at greater risk.[3]

Eco-distress—distress from changes to the environment—is a normal reaction to threatened and actual loss of individuals, communities, and ecosystems. Clinicians should validate patients’ concerns about the impacts of climate change and offer climate-aware mental health suggestions, including the following:

- Learning to recognize and name climate-related emotions, including anger, sadness, and fear, as well as positive emotions, like gratitude.[3,5] Patients may appear apathetic or indifferent when emotionally overwhelmed, which may represent a skill deficit in managing emotions. These patients may benefit from working with a climate-aware therapist or participating in programs like Mind Space (https://mind-space.ca) to cultivate skills for managing emotions in the face of adversity.
- Preparing for disasters, both individually and at the community level, to help reduce anxiety and improve social connectedness and resilience.
- Reducing excessive exposure to media about climate disasters and seeking out positive climate-related stories.
- Making positive personal choices that have co-benefits for the planet and the individual, such as biking or walking instead of driving[3] and eating more plant-based foods.
- Participating in collective action focused on solutions to the climate crisis, adaptation, and systems change, which can promote agency, meaning, and purpose.[3]
- Increasing social connection and exposure to nature through green and social prescribing. These have multiple mental and physical health benefits, and engaging in nature-based solutions such as restoration can empower patients and increase community resilience to climate change.[6] For example, PaRx, Canada’s national nature prescription program, includes subsidized transportation and outdoor venue access.[7]

Globally, mental illness attributed to climate-related threats, air pollution, and poor green space access is predicted to cost US$47 billion per year by 2030.

When someone is unable to regulate their emotions, has impairments in functioning, engages in risky behaviors, or has thoughts of suicide, this goes beyond eco-distress. Clinicians should treat new or worsening symptoms of mood, anxiety, substance use, or other mental disorders as they typically would, in addition to offering the climate-specific interventions above.

Education and training for health professionals to integrate climate-aware mental health care into practice should be a priority.[3] Additionally, meaningful systems-level action on climate change by governments and corporations is urgently needed to address the climate mental health emergency. ■

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Reimagining recovery: A customized approach to interdisciplinary occupational rehabilitation programs for patients with work-related musculoskeletal injuries

In 2023, British Columbia recorded 41 286 new work-related musculoskeletal injuries.[1] While many individuals with such injuries make a swift and straightforward recovery with treatment such as physiotherapy, a significant subset find recovery and return to work complicated, with multifaceted challenges.

These complex cases often involve overlapping physical, psychological, vocational, and social factors. Effective return-to-work solutions in such circumstances hinge on robust collaboration between the primary care physician or nurse practitioner, other health care professionals, WorkSafeBC claims teams, the employer, and the injured worker.

For more than 20 years, WorkSafeBC has contracted with providers in communities across BC to offer structured clinic-based rehabilitation programs to support those facing complex recoveries from injuries such as sprains, strains, and fractures. Until recently, these programs included Occupational Rehabilitation 1 (OR1), Occupational Rehabilitation 2 (OR2), and Activity-Related Soft Tissue Disorders (ASTD).

OR1 used physiotherapy and kinesiology, whereas OR2 and ASTD integrated occupational therapy, mental health services, and medical oversight. While these programs established an essential interdisciplinary model of care, they were sometimes too rigid to accommodate patients' diverse needs and were often not implemented early enough. These limitations highlighted the need for a more adaptable, evidence-informed framework.

A new, co-created model

In 2024, WorkSafeBC launched the Customized Recovery and Return-to-Work (CRRTW) program, replacing OR2 and ASTD, as well as OR1 in urban centres. OR1 remains in place in more remote areas of the province. The new program was created with significant input from health care providers involved in the legacy programs. It is designed to foster a more collaborative and responsive approach to care that involves the workplace at an earlier stage of recovery through early employer contact, jobsite visits, and a focus on timely return-to-work planning.

Collaboration embedded at the core

The CRRTW program's design has enabled a shift toward deeper collaboration, not only across clinical disciplines (occupational therapy, physiotherapy, clinical counseling, and kinesiology, with guidance from program physicians), but also between program providers and WorkSafeBC. This has been facilitated primarily through mandatory team conferences to enhance goal setting, identify potential barriers early, and foster transparency.

Treating primary care physicians and nurse practitioners remain integral to recovery. If you have a patient in the program, you will be sent program reports, and you are welcome to contact the health care professionals administering the program with your questions or comments. As numerous companies deliver this service, specific contact information will be most easily found on the reports that you receive.

Empowering providers, empowering recovery

The CRRTW program emphasizes the autonomy of the health care professionals within the program. Rather than following a fixed protocol, providers determine the structure of the program for each worker, with occupational therapy, clinical counseling, and the services of a contracted physician being added to the treatment team at the providers' discretion, without further approvals required from WorkSafeBC.

For example, the program physicians may provide an assessment and up to 2 hours of follow-up for the injured patient, depending on the patient's unique recovery. This assessment and follow-up are intended to address any medical barriers to program participation. These physicians help guide recovery by providing diagnostic clarity when needed and recommending treatment. This approach supports best practices and makes better use of the program team's expertise **[Box]**.

This article is the opinion of WorkSafeBC and has not been peer reviewed by the BCMJ *Editorial Board.*

Early workplace integration

CRRTW program providers initiate employer contact during the earliest stages of the program. This dovetails with the legislative landscape, which favors early and continuous employer involvement. Notably, British Columbia's Bill 41 sets out the duty of an employer and an injured worker to cooperate in early and safe return to work. The CRRTW program was designed with this in mind.

Real-world impact and future potential

Early reports suggest that the new model is helping close gaps seen in previous occupational rehabilitation programs by enabling more timely interventions and improving communication among all parties. The clinical community's involvement in redesigning the program has supported a more individualized approach to care while emphasizing early workplace integration, which holds promise for more durable recovery and return-to-work outcomes.

BOX. How patients enter the Customized Recovery and Return-to-Work (CRRTW) program.

- WorkSafeBC may refer patients to the CRRTW program if they are likely to benefit from an interdisciplinary active rehabilitation program focused on return to work.
- As a primary care physician or nurse practitioner, you do not need to fill out any forms or refer your patient. You can let us know if you think your patient might benefit from the program by indicating this on a Form 8/11 (Physician's Report) or Form 8NP/11NP (Nurse Practitioner's Report).
- If you would also like to speak with a physician at WorkSafeBC, check the box on the form to speak with a medical advisor. Alternatively, you can reach a medical advisor via the RACE app (www.raceconnect.ca/get-raceapp) to discuss the program or any questions about your patient's recovery and return to work.

Learn more at www.worksafebc.com/en/health-care-providers/rehabilitation/customized-recovery-rtw-program. ■

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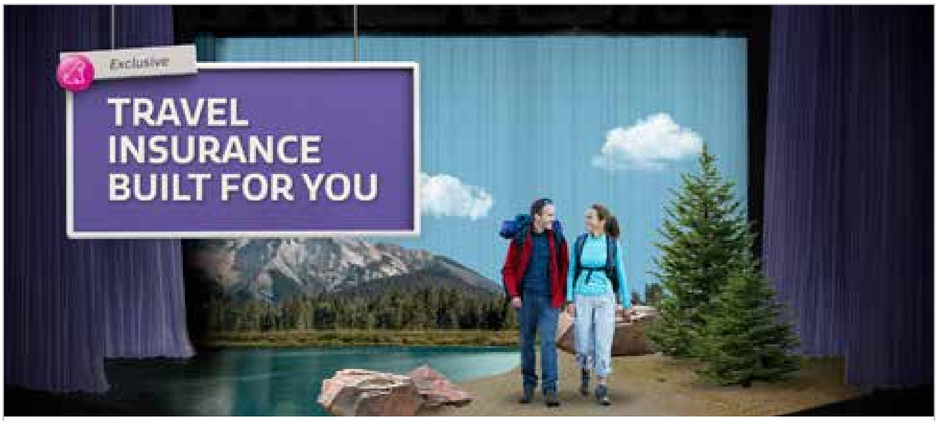

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Dr Raja Abboud

1936–2025

Dr Raja Abboud passed away on 9 January 2025 in the confines of Vancouver General Hospital, where he spent the majority of his career working as a respirologist. He was born in Palestine and did his undergraduate degree at the American University of Beirut, obtaining his MD in 1957 at age 21. He had managed to gain acceptance into the university at age 14 by successfully misrepresenting his true age. He spoke English, French, and Arabic. In 1961, he became a resident physician at Bellevue Hospital in New York City, moving to the University of Pennsylvania in 1967 to complete a postdoctoral fellowship in physiology and, later, residency in internal medicine. He obtained his FRCP in respiratory diseases and his board certification in internal medicine in 1972, arriving in Vancouver the same year, and becoming an associate professor in 1981.

Apart from being an active clinician, he was in charge of the lung function laboratory at Vancouver General Hospital for many decades and was responsible for upgrading the lab with computerized equipment, as well as expanding diagnostic testing to include lung mechanics, exercise testing, and bronchial inhalation challenges. As chair of the then BCMA subcommittee on accreditation of pulmonary function labs, he organized a quality control program for hospital lung function labs following demonstration that the coefficient of variation was narrow in some hospitals but unacceptably large in others.

Raja was interested in research throughout his career, including the pathogenetic mechanisms of emphysema, exploring the contribution of alpha-1 proteinase inhibitors and neutrophil elastase release. These were difficult studies to complete, requiring multiple bronchoalveolar lavages. He was a gifted physiologist, a dwindling breed in respiratory medicine.

I became acquainted with Raja in 1977, when I received a telegram that read "Application successful. Please cable acceptance." I was in Ireland at the time and decided to pursue a fellowship in respiratory medicine, with every intention of returning to my home country. I still have the telegram, and I am listed on his CV as his first fellow. He was very kind to me when I arrived in Vancouver and would often invite me to have dinner with him and his mother, who introduced me to her wonderful tabbouleh. Conversations were conducted in French and English, with a little Arabic thrown in for good measure. We would also go to symphony orchestra concerts when he had a spare ticket and occasionally played tennis and skied together.

Raja was, at times, challenging to work with. His office was postapocalyptic, the very definition of organized chaos. He also had an unusual concept of time. He would frequently arrive 20 minutes late to meetings and would think nothing of starting the evening ward rounds at 6 p.m. He even managed to be late for his own wedding—not the best way to start a lifelong relationship. Serendipity had shined on him when he was the subject of a wrong number phone call. The caller was looking to contact another Abboud, but through conversation, they discovered they had very similar backgrounds. They would eventually meet, establish a relationship, and marry.

Sadly, he spent his latter years in slow, inexorable cognitive decline—a cruel blow for someone so intellectually gifted. Through multiple challenges and eventual complete dependence, he was lovingly cared for in his home by his wife, Afifi, and his son, Theodore. A wonderful celebration of his life was attended by many of his former colleagues, all of whom had a story to share. The respiratory community has lost a kind, compassionate, and modest colleague who was devoted to caring for his patients. May he finally find the peace he so richly deserves.

—Kevin Elwood, MD
Vancouver

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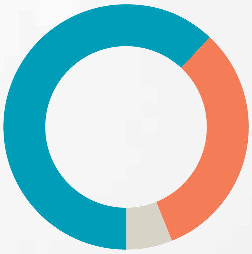
Preliminary results from the *BCMJ* survey, 9 June to 4 July 2025

"The *BCMJ* is a good way to learn about what is happening in medicine in BC."

When asked to rank the most important features of the journal, this statement was the winner by a landslide.

Frequency of reading



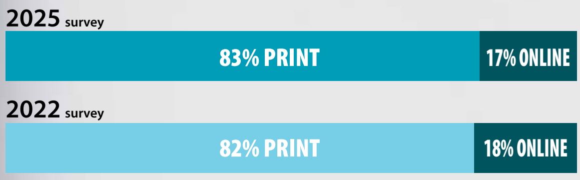
62% always or usually read the *BCMJ*

32% sometimes or occasionally read it

6% never read it

Print and digital

Strong loyalty to print...

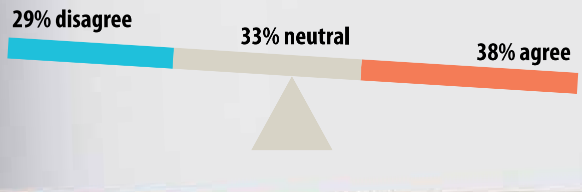


...but growing acceptance of digital

We asked:

"If we were to reduce the number of print issues, maintain or expand the number of articles, but add online tools (e.g., app, video, audio),"

and found that:



Top 5 "want to read about" topics (open response)	Top 5 content types (from list)
1. Health system/policy/advocacy	**1.** Original Research, Review Articles, and Case Reports
2. Clinical practice insights	**2.** Features about colleagues
3. Editorials	**3.** Editorials
4. BC scientific research	**4.** Letters to the editor
5. Innovations and education	**5.** Clinical Images

New features

Of the options provided, "getting indexed" (408 votes) and "adding an app" (404 votes) are a virtual tie for readers.

Indexing

Add an app

Methodology
- Online survey
- 795 responses
- Margin of error: +/– 3.42%
- Response rate: 3%
- Conducted by TWI Surveys, 9 June to 4 July 2025

WHO JENNY IS ON PAPER
376:Keratoconus
02175:Keratoplasty
WHO JENNY IS TO HER DOCTORS
A mom who can't wait to tell her son she has x-ray vision now