

# BCM J

BC Medical Journal

## Health care providers' perspectives on medical travel in northwestern BC

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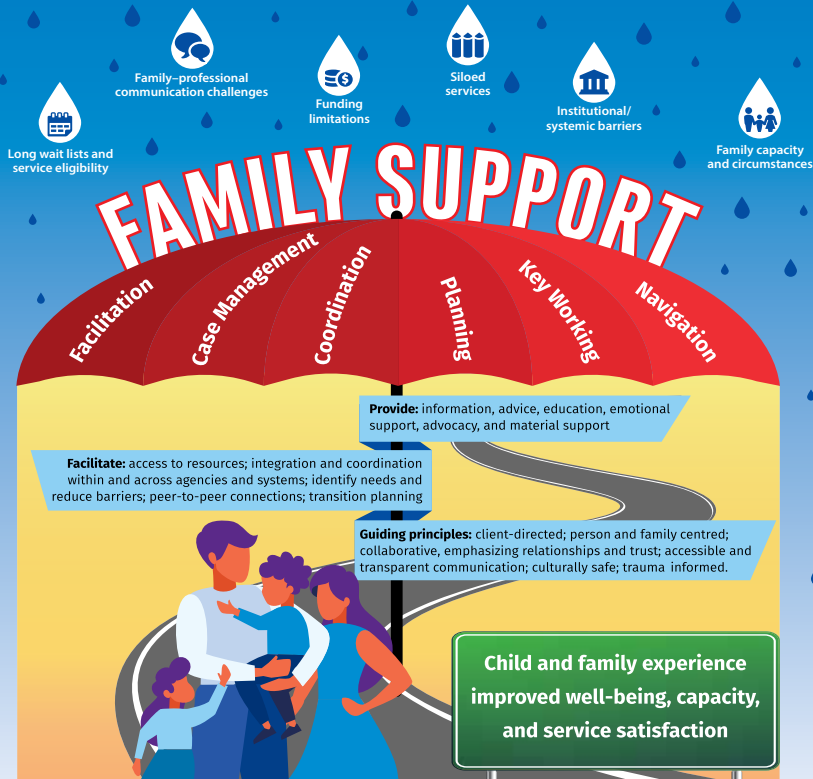


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The *BCMJ* is published by Doctors of BC. The journal provides peer-reviewed clinical and review articles written primarily by BC physicians, for BC physicians, along with debate on medicine and medical politics in editorials, letters, and essays; BC medical news; career and CME listings; physician profiles; and regular columns.

**Print:** The *BCMJ* is distributed monthly, other than in January and August.

**Web:** Each issue is available at [www.bcmj.org](http://www.bcmj.org).

**Subscribe to print:** Email [journal@doctorsofbc.ca](mailto:journal@doctorsofbc.ca).

Single issue: \$8.00

Canada per year: \$60.00

Foreign (surface mail): \$75.00

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ISSN 0007-0556 (Print)  
ISSN 2293-6106 (Online)  
Established 1959



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Our News section has moved online so that it can be more timely. Find it at [bcmj.org/article-type/news](http://bcmj.org/article-type/news).

# Bizarre love triangle

Physician wellness and burnout are all the buzz, and rightfully so. But how often do we consider the partners and significant others of these martyrs of modern medicine? These selfless, understanding, loving people are there when we get home from a long, unpredictable day that has emptied our emotional tanks, dancing around us on eggshells, trying to hold everything together for us. How are they coping when stung by association?

Like the title of New Order's 1986 hit single, it is a "bizarre love triangle"—the physician, the practice, the partner. A triangle perched precariously, shifting its balance from point to point to point, vulnerable to toppling and breaking at any time. The balancing act must be carefully attended to for it to be maintained.

A physician's partner may stay at home, be a physician themselves, or have an equally busy career in another field. Whatever their role, they share in our struggles. Physicians tend to be type A personalities with some control issues thrown in. It is a special person who is able to be partnered with a physician, and when a physician finds the right partner, it can be a beautiful thing.

My partner is my rock, my blankie, my big bear stuffie that I can hug, my reality check, my reassurance, and, most of all, my best friend. But we have had our issues, and there is nothing like having a good counselor to see us through those times. Our counselor was instrumental in resuscitating our relationship. He taught us the art of hugging. Not a pat on the back, but a full-on hug lasting a minimum of 10 seconds. It sounds too easy, but try it. It will revive your physical connection with your partner. In the opening line of the 2004 movie *Crash*, Don Cheadle talks about the sense of touch: "I think we miss that touch so much that we crash into each other, just so we can feel something." Over the past 3 years, as doctors, we have been instructed to

change our philosophy on physical contact with patients, and this permeates into our personal relationships. The hug that I used to enjoy when arriving at home felt tainted, no longer easy and appropriate. How do we recover that mental and physical connection?

**The physician, the practice, the partner. A triangle perched precariously, shifting its balance from point to point to point, vulnerable to toppling and breaking at any time. The balancing act must be carefully attended to for it to be maintained.**

I decided to seek the advice of a colleague in Kamloops. David Darwin is a registered clinical counselor. He enlightened me on his perspectives on physicians and their relationships:

"I have worked over the years with doctors and their significant others, as well as with groups of doctors aiming to prevent professional burnout. During this time, I have identified one particular difficulty that stands out. Medical practitioners can struggle to connect with their partners on an emotional level. Because the medical field encourages a separation of self from emotions when dealing with patients, health care professionals may find it difficult to access their emotions when off duty. Western society reinforces this practice by warning us all against connecting too much with our own or others' emotions. Yet, emotions have been described as a lifeblood of relationships and the messenger of love. (For more

information, see *A General Theory of Love* by Thomas Lewis<sup>1</sup>)." For more of Darwin's thoughts on the importance and challenge of emotional connections, see his blog post on [bcmj.org](http://bcmj.org).

At Darwin's suggestion, I watched Brené Brown's TED Talk on vulnerability,<sup>2</sup> read the summary of Amir Levine and Rachel Heller's book *Attached*<sup>3</sup> (which reviews attachment styles), and filled out an ARE questionnaire<sup>4</sup> (which considers accessibility, responsiveness, and engagement) to assess the state of our current relationship.

I realized that I was able to connect with my partner only once I let my guard down. Accepting vulnerability has enhanced my relationship with my partner and has made me a better physician. I can also connect with my patients on a deeper level. I can openly celebrate their happiness and comfort them in their times of sorrow. I hug my patients.

I challenge all of you to find your balance in the bizarre love triangle. ■

—Jeevyn K. Chahal, MD

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# You are doing amazing things, and we want to hear about them

**C**alling all readers: we want to hear from you!

The *BC Medical Journal* is a unique publication—it is the only provincial medical journal in Canada and one of Doctors of BC's longest-running member benefits. And it is you, our readers and colleagues, who contribute to its success and quality. We are proud and humbled to facilitate communication between doctors of all specialties throughout our beautiful province. We know from reader research that physicians across all disciplines read the *BCMJ*, so if your article is published here, I would argue that more of your colleagues are likely to see it than if it were published in any other journal.

In the first quarter of 2023, we received more submissions than ever before, and we couldn't be happier about it. We have been impressed by the work being done by some of our province's largest screening programs, such as breast cancer, colon cancer, and lung cancer screening. UBC medical students continue to contribute in the BCMD2B category, which highlights a promising future for our profession, and the *BCMJ* remains a place to learn about timely public health issues such as increasing rates of syphilis and opioid use. I want to encourage our readers to continue the good work of writing for the journal. Physicians from across our province are doing amazing things, and our mission is to share that information. Tell us what you're up to!

Clinical articles are always welcome, including papers on randomized controlled trials, retrospective cohort studies,

and quality assurance projects. Remember that medical learners are often seeking research and writing mentorship, and this can be a good way to get our newer colleagues involved in medical writing. If research is not your cup of tea, consider submitting a Clinical Image with an accompanying description or a short blurb for our online Blog. We also recently in-

troduced a new article type—BC Stories—where we encourage you to tell us about an experience in your life outside of medicine, whether tales of the arts, athletics, travel,

or humanities from around BC. Finally, if you've got an opinion to share, then tell us what you *really* think. The Premise category includes essays and opinion pieces on any medicine-related topic, and Letters to the Editor are a quick way to share your point of view.

Diversity is essential; it enhances the quality of health care we can offer to patients, and when we share experiences from our diverse physician workforce, we have an opportunity to advance the culturally sensitive and appropriate care we provide, leading to better health outcomes. Our province's diverse population comprises individuals from a variety of ethnic, cultural, and socioeconomic backgrounds, each with unique health care needs. The more we communicate, the better we foster a collaborative and inclusive health care system that benefits everyone in British Columbia. ■

—Caitlin Dunne, MD

**It is you, our readers and colleagues, who contribute to the journal's success and quality.**

## Letters to the editor

We welcome original letters of less than 500 words; we may edit them for clarity and length. Letters may be emailed to [journal@doctorsofbc.ca](mailto:journal@doctorsofbc.ca), submitted online at [bcmj.org/submit-letter](http://bcmj.org/submit-letter), or sent through the post and must include your mailing address, telephone number, and email address. Please disclose any competing interests.

### Thank you to Dr Brian Day

I wanted to pass on a thank you to Dr Brian Day for not being afraid to use his voice and for advocating for a better health care system over the years. His words have become more compelling to me with time, and I think they are more poignant than ever.

Every doctor I have met has a passion unique to themselves. Some of those passions and practices can't be justified within the funding of the existing public health care system. That's not all bad. But I, like Dr Day, it seems, wish there was more flexibility to innovate both inside and outside the existing system. I truly believe it would benefit more people, regardless of income.

—Darren Jakubec, MD  
Smithers

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## Etuaptmumk: Two-Eyed Seeing

**C**oined by Elder Albert Marshall in 2004, *Etuaptmumk* is the Mi'kmaw word for Two-Eyed Seeing. It refers to learning to see from one eye with the strengths of Indigenous knowledge and ways of knowing and from the other eye with the strengths of Western knowledge and ways of knowing. This process of balancing and learning to use both eyes to take in knowledge from both cultures should be pursued by all of us.

The concept of *Etuaptmumk* has gained recognition across Canada, and it is one that I have come to understand as particularly true in our roles as physicians. Alongside Indigenous patients, we are to integrate our knowledge of science, anatomy, and physiology with an understanding of the lands, context, and culture. Reflectively, this is true for all our patients. As physicians, we continually integrate the knowledge we gain from medical information, scientific research, and data with our lived experiences and our state of mind and being.

On display in the main entry of the Doctors of BC office in Vancouver is artwork by Mr Rain Pierre with a caption that reads: "BC doctors walk with all Indigenous patients in the spirit of truth and reconciliation." If we want to live this statement—that we walk alongside Indigenous patients—I encourage each of us to understand more about Indigenous ways of knowing, being, and doing.

Anyone who has heard me speak will know I introduce myself from the frame of human being and human doing. In my human being, I am a husband, father, son, brother, grandson, uncle, settler of European



*Community engagement and learning session with local Elders and the First Nations Health Authority at the Anderson Creek Longhouse, Boston Bar, BC.*

descent, and believer in our humanity and our creator. I do my best to acknowledge my elders and the family from which I come, and I appreciate the privilege I hold having these people in my life. In my human doing, I am a family physician, a rural generalist, a leader, and someone who has the great honor to serve as president of Doctors of BC. The frame of human being and human doing is something I have learned from Indigenous Elders and Knowledge-Keepers I have met and sat with in circle. There is a balance and a recognition of the whole of who I am when I introduce myself as more than just my profession.

Wednesday, 21 June 2023, is National Indigenous Peoples Day in Canada. As Canadians, and especially as physicians whose profession lies in healing and helping people, it is important that we understand the impact of colonialism and its lasting effects on Indigenous people's health and well-being. We should, as encouraged by Megan Tipler, an Indigenous teacher, "learn about Indigenous brilliance and success as much as you learn about Indigenous

suffering and trauma." June is an opportune time to do so, whether by attending an event across the province, on reserve or in community, or by signing up for an educational series on cultural safety and humility ([www.collaborateonhealthbc.ca/events](http://www.collaborateonhealthbc.ca/events)).

Personally, I will continue to share and reflect on the knowledge I have gained from the time I spent on reserve, in the longhouse, and with Elders. Teachings like listening with my three ears, the idea of ceremony in medicine, and Two-Eyed Seeing are invaluable pieces of knowledge that I have acquired over the years from many Elders.

I cannot predict how your journey will be enriched by seeking knowledge and understanding from Indigenous Elders, for it is personal. But I can assure you that as you begin to see *Etuaptmumk*, your perspective on both medicine and life will undoubtedly expand. What better time than now to celebrate and revere Indigenous ways of knowing, being, and doing, and to consider integrating them into your practice. ■

—Joshua Greggain, MD  
Doctors of BC President

# Deconstructing stress leave

There is a growing demand for time away from work due to stress, burnout, and compassion fatigue. When a patient asks for a note to begin a stress leave, physicians and nurse practitioners may be conflicted or unsure of where to begin. They are also increasingly aware of the social determinants of health, including the harms of worklessness,<sup>1-3</sup> and want to provide the best care and advice to patients who are requesting a medical absence from work.

Ideally, employers can make accommodations to allow their employees to remain at work in some capacity. However, if you agree that your patient should be off work completely, the next question is often how to get financial support for their absence. For WorkSafeBC coverage, there must be an identified and accepted work-related injury.

## Confirming a workplace mental health injury

Confirming a workplace mental health injury involves two required steps. The first requirement is for WorkSafeBC adjudicative staff to accept a mechanism of injury that occurred at work, such as a traumatic event or a significant stressor. Bullying and harassment (behavior that is clearly meant to intimidate or humiliate) are considered significant stressors. For some occupations now covered under provincial presumptive legislation, it is presumed that the patient's diagnosis was caused by their work, and no causal analysis is required once it is established that they have been exposed to a traumatic event. These occupations are emergency medical assistants (including paramedics), firefighters, police officers,

sheriffs, corrections officers, emergency response dispatchers, nurses regulated by the British Columbia College of Nurses and Midwives, and health care assistants registered with the BC Care Aide and Community Health Worker Registry and working in a publicly funded setting.

Once WorkSafeBC adjudicative staff accept or presume a mechanism of injury for a mental health injury, they will arrange for an assessment with a psychologist or psychiatrist to confirm a *DSM* diagnosis. This second step is mandated by provincial legislation, not by WorkSafeBC. It is also possible that a traumatic event at work or other significant workplace stressors have caused a worsening of an established mental illness. In such cases, you can treat this the same way you would any mental health claim and start by submitting a Form 8 report.

## Mental illness that is not work related

If a mental illness is not work related, other avenues to consider are medical employment insurance, short-term disability, and long-term disability. Each of these has its own paperwork and eligibility criteria. Some regions of the province now have access through primary care networks to publicly funded social workers who can help your patients navigate these applications. Employees may also have access to assistance through their human resources department or union representative.

## Stress leave in the absence of mental illness

If someone is experiencing workplace burnout without an underlying mental illness (i.e., they are functioning normally outside of the work setting and do not meet the criteria for a mental health disorder), they are not eligible for financial support through WorkSafeBC. In this scenario, before writing a note for stress leave, it can be

important to discuss with your patient the pros and cons of being off work. While a break from work may provide some immediate symptom relief or avoidance of conditions your patient finds stressful, if nothing else changes during those few weeks off, you and your patient may find at follow-up that their condition is unchanged while their risk of losing their livelihood has increased.

Asking your patient what will happen during stress leave—for example, “What is it about being off work that will help you?” and “How will the situation have changed when you return to work?”—often helps both parties recognize when a temporary exit may or may not resolve the stress with which your patient presents. In addition to exploring possible workplace accommodations, you can assist your patient through this type of stressful experience in the same way you might through other life stressors or illness. If you think the workplace is unsafe, please report it to WorkSafeBC Prevention Services at 604 276-3100 or 1 888 621-7233; your call can be anonymous.

A request for stress leave can also be a valuable opportunity to review coping strategies with your patient. Proper sleep, nutrition, exercise, and healthy social connections are all great ways to maintain and enhance our mental health. Resources like [www.heretohelp.bc.ca](http://www.heretohelp.bc.ca) and [www.keltymentalhealth.ca](http://www.keltymentalhealth.ca) have useful educational materials and tips for stress management.

If you have additional questions or need help with a particular patient, please don't hesitate to contact a WorkSafeBC physician medical advisor or make a RACE request (via the RACE app or by calling 604 696-2131 or 1 877 696-2131) to discuss. ■

—Tanya Fairweather, MD, CCFP, FCFP  
WorkSafeBC Medical Advisor

—Celina Dunn, MD, CCFP, CIME  
Medical Services Manager, WorkSafeBC

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



# Professional interpretation service accessible to all community specialists in BC

In professional interpretation, a skilled interpreter translates oral information from one language to another, reducing language barriers and enabling understanding between parties. Within health care, professional interpreters can both provide literal interpretation and incorporate cultural nuances in communications. At times, advocacy may also be integrated into the interpreter's role. Within BC, the Provincial Health Services Authority offers Provincial Language Services, which includes translation and interpretation in over 200 languages. Options for interpretation delivery include on-site interpreting (available only for Lower Mainland health authorities), virtual health visit interpreting, remote video interpreting, and over-the-phone interpreting.

Unaddressed language barriers are linked to reduced health care access for immigrants and refugees with non-English language preferences. With BC's growing immigrant and refugee populations, there is an increased need for interpretation services and greater responsibility to accommodate communication in health care settings. In parallel, there is also a need to promote interpretation services among health professionals; underuse and lack of awareness of such services have been noted in BC and other provinces.

In the 2019–2020 fiscal year, there was an average of 426 requests per day for medical interpretation in BC. Research has shown that the use of skilled interpreters reduces

the inequity that non-English-speaking patients experience in receiving health care. This is achieved through improved comprehension and clinical outcomes and increased patient satisfaction. Professional interpretation is also helpful for medical providers, as it can improve accuracy by reducing miscommunication and subsequent errors in diagnosis and treatment. The benefits of interpreters go beyond literal translation; interpreters can also contribute cultural understanding and enable providers to offer more culturally sensitive care.

However, providing adequate interpretation services is also associated with nuances and challenges. Using interpretation services can appear to be time-consuming and may cause frustration for both patients and providers. There is also a lack of knowledge about existing interpretation services and how to use them. In addition, due to the number of different languages spoken in Canada, it can be difficult to find an in-person interpreter. However, studies report that while in-person interpreter encounters were better perceived by patients and providers, there was no significant difference in overall visit satisfaction between different types of interpreters.

The spoken language interpreting service initiated by the Specialist Services Committee (SSC) is available to all specialists and office-based allied health teams (e.g., registered nurses, medical office assistants, respiratory therapists) at no cost. This telephone-based service is accessible through Provincial Language Services and provides professional interpretation in more than 200 languages, 24 hours a day, 7 days a week. In 2022, when the SSC pilot program was initiated, community specialists from

19 specialties used the service for approximately 50 hours per month.

There is clear evidence of demand for such services from both specialists and the communities they serve. This is a significant step in providing equitable, high-quality medical services to all residents of the province, regardless of their preferred spoken language or background.

Previously, Provincial Language Services was available only to community-based family physician offices through Divisions of Family Practice. With the introduction of this service through SSC, skilled language interpretation is now accessible across a broad spectrum of health care in BC.

Short videos and interviews are being created to promote and educate staff on the importance of professional interpretation and the availability of such services. To support widespread ease of access to Provincial Language Services, the goal is to produce additional outreach materials such as easy-to-follow instruction sets for medical offices. On a broader scale, the implementation and promotion of this service can be accelerated with increased government and committee funding. In the future, development of training programs for staff can also help educate them on the appropriate use of such technologies. Community specialists throughout BC can incorporate this service into their practice to provide more equitable care to all patients in a highly efficient manner. ■

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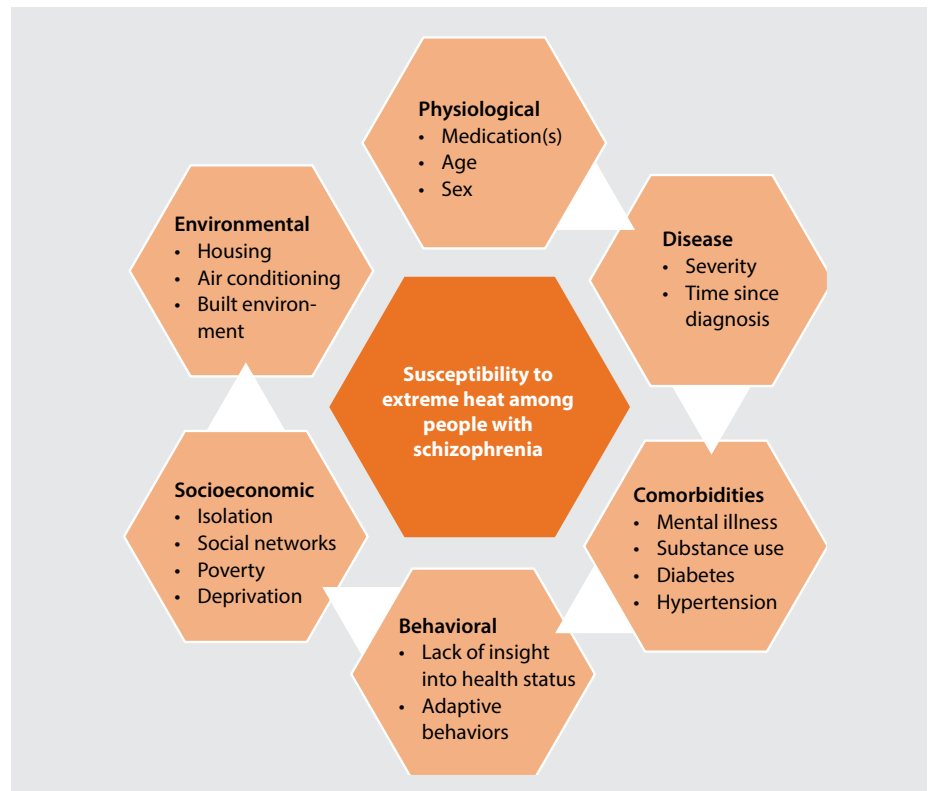
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*This article was submitted by the Specialist Services Committee and has not been peer reviewed by the BCMJ Editorial Board.*

# Risk of mortality among people with schizophrenia during the 2021 heat dome

The 2021 heat dome was one of the deadliest weather events in Canadian history,<sup>1</sup> and during that period schizophrenia was associated with a higher risk of death than any other chronic disease.<sup>2</sup> There were 134 deaths among people with schizophrenia in BC during the hottest 8-day period. This represents approximately 8% of all deaths during the event, even though people with schizophrenia represent only approximately 1% of the BC population. When deaths during the heat dome were compared with deaths on the same days in previous years, having schizophrenia was associated with a three-fold increase in the risk of death.<sup>2</sup> Despite these striking results, people with schizophrenia are not usually at the forefront of public health messaging about extreme heat events.

There are several interrelated reasons why people with schizophrenia may be at higher risk from extreme heat [Figure]. First, they may lack insight into their own health or experience disorganized thinking; therefore, they may not recognize the threat posed by high temperatures. Second, schizophrenia can lead to social isolation and economic marginalization, both of which are independent risk factors for mortality during extreme heat.<sup>3-5</sup> Third, schizophrenia may co-occur with other conditions such as substance use disorder, diabetes, and hypertension, which increase heat-related risks.<sup>3</sup> Finally, some



**FIGURE.** Intersecting risk factors for increased susceptibility to extreme heat among people with schizophrenia.

medications used to treat schizophrenia can affect thermoregulation and increase physiological susceptibility to heat.<sup>6</sup> This is particularly true for antipsychotics with anticholinergic properties.

We used PharmaNet to identify medications dispensed to all people in BC with schizophrenia in the 90 days prior to the 2021 heat dome and compared dispensations among those who died and those who survived. Among those who died, 80% had been dispensed an antipsychotic medication, compared with 55% of those who survived.

We also found that 65% of those who died had seen a physician for a

schizophrenia-related visit in the preceding year. Clinicians are well positioned to communicate about extreme heat with patients who have schizophrenia and might be at high risk. A useful framework to protect patients can be found in *Current Psychiatry* (<https://cdn.mdedge.com/files/s3fs-public/CP02109027.pdf>)<sup>7</sup> and a BC guide to prepare for extreme heat can be found at [www2.gov.bc.ca/gov/content/safety/emergency-management/preparedbc/know-your-hazards/severe-weather/extreme-heat](http://www2.gov.bc.ca/gov/content/safety/emergency-management/preparedbc/know-your-hazards/severe-weather/extreme-heat).<sup>8</sup> Clinicians may also have the opportunity to communicate with family, caregivers, and others who support people

*This article is the opinion of the BC Centre for Disease Control and has not been peer reviewed by the BCMJ Editorial Board.*

with schizophrenia and can highlight the importance of health checks<sup>9</sup> during hot weather. In-person or virtual checks can be used to assess how an individual is coping with extreme heat, encourage them to take protective cooling measures, and initiate assistance if needed.

People with schizophrenia are particularly susceptible to extreme heat, as demonstrated by the 2021 heat dome in BC. Although the side effects of antipsychotic medications can increase risk, the pathway between heat and health outcomes among people with schizophrenia is complex. Antipsychotic medications are lifesaving therapies, and they should not be discontinued or modified to reduce risk during extreme heat. Instead, those treating and supporting people with schizophrenia should focus on other risk factors associated with the condition, particularly social isolation and lack of access to air conditioning. By identifying, counseling, and checking in on those

at highest risk, we can reduce morbidity and mortality during future extreme heat events. ■

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**SSC**

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# Health care providers' perspectives on medical travel in northwestern British Columbia

If effort is not made to support rural patients who have to travel to receive medical attention, gaps in care between rural and urban patients will widen.

## ABSTRACT

**Background:** Rural patients frequently travel long distances to receive medical care. Our objective was to explore their challenges with medical travel.

**Methods:** In this qualitative study, we interviewed 10 health care providers in northwestern BC about the experiences of rural patients when undertaking medical travel. We used thematic analysis and patient partners to identify key themes, challenges, and ways to improve patients' experiences.

**Results:** Health care providers' insights on the challenges with medical travel were based on the cumulative stories of patients' experiences. Six key themes were identified: travel delays, financial impact, travel logistics, uncertainty about urban environments, family impact, and inability to travel.

**Conclusions:** Rural patients' experiences with medical travel could be improved by providing more support for travel costs, making travel arrangements for patients, considering the patient's personal context when booking appointments and planning discharges, and increasing telehealth services and visiting specialist services.

## Background

Each year, more than 7300 patients are transported to hospitals by air ambulance within BC, and countless others travel privately to urban centres for outpatient care.<sup>1</sup> Northern BC is particularly remote, and reaching tertiary-level specialist services requires expensive flights and long drives. Understanding the challenges patients face with medical travel is vital to better address health equity and access issues in BC.

Previous studies have identified many challenges rural patients and families experience in undertaking medical travel, including financial burdens, unfamiliarity in urban environments, lack of continuity of care, and isolation.<sup>2-8</sup> However, most studies have focused on rural Australia and the United States. Data from northwestern BC are needed to better understand the local context, which can be influenced by geography, weather, and the health care system's structure.<sup>9-10</sup>

Health care providers offer valuable perspectives on medical travel. As active participants in the patient's medical care, they

witness challenges many patients experience in navigating medical travel and understand the complexity of the BC health care system. We interviewed health care providers in northwestern BC to identify patient challenges and successes in undertaking medical travel and areas for improvement.

## Methods

### Study design

The study was guided by the Northern Patient Travel Improvement Committee, which includes patient partners, health researchers, and health care providers. We used a qualitative research design (semi-structured one-on-one telephone interviews) to record health care provider perspectives. Participants were asked about their role in caring for patients who have to travel to receive medical care and the challenges and successes in undertaking medical travel; suggestions for improvement were also requested.

### Study area

This study focused on northwestern BC, a geographically and culturally diverse area populated by several Indigenous nations (including the Gitksan, Haisla, Haida, Nisga'a, and Tahltan Nations; Tsimshian First Nations; Taku River Tlingit First Nation; and Wet'suwet'en First Nation) and ethnically diverse settler populations.<sup>11</sup> Transit is complicated by long drives, mountain weather,

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*At the time this research was conducted, Dr Massel was a medical student at the University of British Columbia. Ms Jawanda was a research assistant at the University of Northern British Columbia. Dr Sohi was a clinical assistant professor at UBC. Ms McMillan was a patient partner. Dr Jaworsky was a clinical assistant professor at UBC and an affiliate clinical assistant professor at UNBC.*

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*This article has been peer reviewed.*

and lengthy ferry commutes from island communities. Commercial flights service only a few communities in the area. Health care facilities in this region range from small nursing stations to larger hospitals with general internal medicine and surgical specialists.

**Study participants**

Health care providers were invited via local email lists to participate in short interviews to obtain their opinions on medical travel. Sampling was aimed at including diverse health care providers in family medicine, emergency medicine, inpatient medicine, transport paramedicine, and social work. Effort was made to recruit health care providers from remote communities to reflect the additional pressures of remote medical travel. Participants were recruited until data saturation was reached.

**Data analysis**

Thematic analysis was conducted on transcribed interviews that were coded using NVivo v12 software.<sup>12</sup> Data were analyzed based on the explicit meanings of participants’ statements. Initial themes were developed both deductively from previous studies and inductively based on interview content. The research team, including patient partners, then reviewed the coded data and provided input on which themes were most important based on the data and their experiences. Final themes were selected based on how frequently they occurred in interviews and on patient partner contextualization of the data. All suggestions for improving patient experiences were documented and linked to the relevant medical travel challenge based on sequence in the interview and related content.

**Ethics approval**

Ethics approval was obtained from the University of Northern British Columbia Research Ethics Board (file number H18-02178). Participants provided informed consent.

**Results**

Ten health care providers were interviewed, including family physicians, specialist physicians, a social worker, and a transport paramedic [Table 1]. Six key themes were selected for discussion: travel delays, financial impact, travel logistics, uncertainty about urban environments, family impact, and inability to travel. A summary of recommendations for improvement is provided in Table 2.

**TABLE 1.** Demographics of study participants.

Occupation	No. (%)
Family physician	5 (50)
Specialist physician	3 (30)
Transport paramedic	1 (10)
Social worker	1 (10)
Identified gender	No. (%)
Male	7 (70)
Female	3 (30)
Age	No. (%)
30–39	6 (60)
40–49	1 (10)
50–59	2 (20)
60 and older	1 (10)
<b>Years worked in northwestern BC</b>	Mean: 12 Median: 6

**TABLE 2.** Patient challenges with medical travel and potential improvements.

Challenge	Suggested improvements
Travel delays	<ul style="list-style-type: none"> <li>• Increase the number of air ambulances.</li> <li>• Place advanced care paramedics in rural communities.</li> <li>• Streamline bed allocation in tertiary care and at repatriation sites.</li> </ul>
Financial impact	<ul style="list-style-type: none"> <li>• Provide additional financial supports and subsidies, especially for low-income families.</li> <li>• Provide funding for return travel after acute care transfer.</li> <li>• Provide subsidized accommodations near tertiary care centres.</li> </ul>
Travel logistics	<ul style="list-style-type: none"> <li>• Provide care coordinators to help out-of-region patients coordinate tests and appointments.</li> <li>• Group multiple appointments into a single visit to an urban centre.</li> <li>• Provide shared care between local and tertiary care providers to arrange for testing (e.g., lab tests, imaging) to be done locally before the patient’s appointment at a tertiary care centre.</li> <li>• Improve communication between tertiary care centres and local providers at the time of patient discharge.</li> <li>• Increase the number of medical trainees in rural sites to improve awareness of rural resource limitations.</li> </ul>
Uncertainty about urban environments	<ul style="list-style-type: none"> <li>• Increase communication between tertiary care and local providers prior to patient travel.</li> <li>• Provide support from social workers and Indigenous liaisons in tertiary care centres.</li> </ul>
Family impact	<ul style="list-style-type: none"> <li>• Increase funding for family members to escort patients.</li> <li>• Create more inclusive criteria regarding necessary patient escorts.</li> </ul>
Inability to travel	<ul style="list-style-type: none"> <li>• Provide virtual care, including telehealth clinics and RACE (Rapid Access to Consultative Expertise).</li> <li>• Expand visiting specialist services to more rural communities.</li> </ul>

### Travel delays

The problem of travel delays was ubiquitous, and acutely ill patients often waited days while medical travel was arranged. It was trying for rural patients to know that their urban counterparts received care for a similar condition in a timely manner while their care was postponed due to travel delays. One interviewee said, "Some of them have the experience of the plane coming and being turned around. Or being told [urban hospital] has a bed, day one . . . get them here by 12 o'clock. No plane. Then day three, no more bed. . . . And then they wait until day eight."

### Recommendations

Increase the number of air ambulances and strategically place advanced care paramedics in rural communities. Additionally, streamline bed allocations to help optimize existing transportation resources by ensuring patients can be efficiently transferred to and from hospital by air ambulance.

### Financial impact

Most medical travel expenses were borne by patients. When traveling for ambulatory care, patients needed airfare and hotels, often for multiple trips. Patients who were transported by air ambulance for a medical emergency were usually responsible for their return transportation home once they were stabilized. It was especially difficult for patients with limited financial means to come up with large sums on short notice.

### Recommendations

Provide additional financial subsidies to ease the financial challenge patients face. Health care providers commended Work-SafeBC, local Indigenous communities, and the First Nations Health Authority Medical Transportation Benefit program for supporting members' travel expenses; however, more supports for low-income persons are needed, as are programs such as funded travel home following emergency hospitalization. Subsidized accommodations (such as BC Cancer lodges and Ronald McDonald Houses) are helpful in

relieving the burden of accommodation costs, but they are available only to certain patient populations; more are required to support rural patients' travel.

### Travel logistics

Health care providers recalled stories of patients transported emergently by air ambulance who were then discharged without

**Patients who were transported by air ambulance for a medical emergency were usually responsible for their return transportation home once they were stabilized.**

shoes or wallets from an urban centre hundreds of kilometres away from their community. One interviewee said, "Once they get their problem dealt with down there, they're booted out the door and they have to make their own way back. They may not have even brought any clothes with them . . . so it often seems like there's very little attention brought to the fact that it's going to be difficult for a patient from a small centre to get back . . . on their own."

Travel logistics were also challenging for ambulatory care travel. Visiting a specialist often took 1 to 2 days of travel, and dangerous winter travel conditions often caused delays. While away for many days, patients had to plan for responsibilities at home, such as care of dependants. Cancellation or rescheduling of appointments also created a considerable burden for patients who had already booked travel arrangements.

### Recommendations

A considerate, patient-centred approach to booking appointments and arranging discharges is needed for rural patients. Support in making travel arrangements, such as out-of-region care coordinators, should also be provided. Additionally, consulting

specialists could ask for testing or imaging to be arranged in advance of medical travel in order to minimize the need for return trips, and multiple appointments could be grouped into one visit to an urban centre. Also, medical trainees should be exposed to rural placements to foster understanding of the logistical challenges rural communities face in accessing medical care.

### Uncertainly about urban environments

Traveling to an urban environment could be intimidating and anxiety provoking for rural patients. Often, patients were isolated from family and social support, and some held cultural or societal beliefs that were unfamiliar to the urban care team. Patients who were undertaking medical travel had many questions that their health care providers were not able to answer, such as the nature of care in the city and the length of travel required, whether family would be able to accompany them, and how they would return home. One interviewee said, "They have this fear of going to a bigger centre where they don't know their way around, they're leaving their family . . . they don't know for how long, they don't know where they are staying . . . not to mention they have to travel with this medical condition. . . . All the additive questions and additive fears . . . are pretty distressing for people."

### Recommendations

Health care providers need information about what services are available in urban centres in order to support patients with their medical travel and help alleviate their anxiety. More detailed communication from providers in urban centres is also needed. Additionally, social workers and Indigenous liaisons should be available in tertiary care centres to support rural patients who have to undertake travel for medical reasons.

### Family impact

Due to financial limitations, travel logistics, or responsibilities at home, family members were often unable to accompany their loved one on medical travel. If separated, family

members felt guilt for not being present to support their loved one. It was also difficult for them to receive updates and advocate for their loved one from afar. If family members did travel with their loved one, they often did so at a considerable cost.

### Recommendations

Increase funding for family members to escort their loved ones to medical care, and ensure affordable accommodation is available. In addition, requirements for escorts need to be broadened beyond physical need to also encompass the overall wellness needs of patients.

### Inability to travel

For some rural patients, the barriers were such that they were unable to undertake medical travel, even at risk to their health. Reasons for declining medical travel were multifactorial and included many of the themes described above, as well as previous negative experiences with medical travel. One interviewee said, “I have a lot of patients who, even though I think they have cancer and should probably have a PET [positron emission tomography] scan, they’re not going to get their PET scan until the spring. That’s just their choice. . . . They’ll delay because of weather, and they’ll decline entirely because of finances.”

### Recommendations

Virtual care, including telehealth clinics and the RACE (Rapid Access to Consultative Expertise) telephone line, allows patients to be cared for locally, which reduces the need to travel. Expanding visiting specialist services to more rural communities would reduce the need for patients to travel for ambulatory care and would help local primary care providers gain expertise through shared care approaches.

### Discussion

Equal access to health care is an underpinning principle of the Canadian health care system.<sup>13,14</sup> Our study highlights the many challenges of medical travel, which makes it difficult for rural patients to access the

same standard of care that is available to urban patients. As medical care increases in complexity, there is a trend toward centralizing services in urban centres that have specialized imaging and therapeutics.<sup>15,16</sup> This increases the need for rural patients to undertake medical travel. If proportional effort is not made to support rural patients who have to undertake medical travel, care

**Expanding visiting specialist services to more rural communities would reduce the need for patients to travel for ambulatory care and would help local primary care providers gain expertise through shared care approaches.**

gaps between rural and urban patients will widen. Local, regional, and provincial strategies are needed to ensure equitable access to care across BC.

Due to the diversity of rural communities in BC, unique approaches to medical care are required, which should be tailored to the communities’ geographic, infrastructure, and cultural aspects, and providers working in rural communities need to be engaged in policy development.<sup>17</sup> In our small study, rural health care providers identified many opportunities for improving the experience of patients who must travel for medical care. The study participants provided insights into system-level processes and reflections on the experiences of patients in their practice. Selecting participants from a variety of professions and experiences ensured that diverse opinions were obtained, which strengthened the data. With a small sample size, there is, nevertheless, a risk of ascertainment bias, and participants who are stronger advocates for rural health equity may have been more likely to participate in this study. In total, eight physicians participated in this study, which represents

between 5% and 10% of the physicians who are actively practising in northwestern BC. The mean years of practice in northwestern BC was 12, which suggests that the study participants could reflect on their experiences in providing care to a large number of rural residents. However, their perceptions may not have reflected all patient experiences. Previous studies have noted discrepancies between patients’ experiences and providers’ perceptions of their experiences.<sup>4,18,19</sup> Thus, for a more complete understanding of the diversity of experiences with medical travel in northwestern BC, patients’ personal opinions must also be sought (work is in progress).

### Conclusions

Rural patients demonstrate resourcefulness and resilience when facing the challenges of medical travel. Nevertheless, significant barriers exist, which causes frustrations for patients and contributes to health inequities. Travel delays, financial impact, logistical challenges, uncertainty about urban environments, family impact, and inability to travel affect rural patients who have to travel to receive medical care. Health care providers suggested that patients’ experiences could be improved by providing more support for travel costs, making travel arrangements for patients, and considering the patient’s context when booking appointments and planning discharges. The study participants also felt that more patients could be spared from having to travel to receive medical care by increasing telehealth services and visiting specialist services. The findings of this study may be useful for informing future policies that are directed at improving rural patients’ experiences with medical travel.

### Competing interests

None declared.

### Acknowledgments

Funding for this study was provided by the BC SUPPORT (British Columbia Support for People and Patient-Oriented Research and Trials) Unit. The authors would like to thank

all health care workers providing care in rural, remote, and northern communities for their ongoing dedication to providing care in under-resourced settings and for their advocacy in addressing geographic health inequities. They would also like to thank all the rural patients who make their work so worthwhile. Finally, they would like to thank Megan Stewart for her help editing.

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# Uptake of a free province-wide telephone interpretation service by family physicians in BC

Research and policy are needed to address barriers to the use of professional interpretation services by BC family physicians in order to better serve patients with limited English proficiency.

## ABSTRACT

**Background:** Publicly funded telephone interpretation for family physicians in British Columbia has been available since 2017 through Provincial Language Services. However, there has been no published literature on its usage.

**Methods:** We performed a quantitative and descriptive analysis of data from Provincial Language Services for all users who accessed telephone interpretation through the Primary Care Telephone Interpreting Service Pilot Project from 2017 to 2020. These data were then compared with publicly available data on populations and physicians in BC.

**Results:** Of 23 484 interpreted telephone calls between November 2017 and December 2020, most (86%) were made in Vancouver. Arabic and Farsi represented 58% of all calls. There were 15.1 calls per 100 people with limited English proficiency during the study period. Average call duration was 21 minutes (range 1

to 266). Monthly usage increased from 164 calls in November 2017 to 927 calls in December 2020. In 2020, an estimated 1.9% of primary care visits involving language barriers used telephone interpretation.

**Conclusions:** Uptake of interpretation services has increased but remains low among BC family physicians; barriers to this should be explored.

**Note:** Access **Appendices** and **Tables S1–S6** at [bcmj.org](http://bcmj.org).

## Background

In our increasingly multicultural society, language barriers are prevalent in health care. Patients with limited English proficiency face health care disparities, including reduced preventive health care, increased use of diagnostic tests, increased hospitalizations and adverse medication reactions, decreased satisfaction with health care, and disparities in confidentiality and informed consent.<sup>1</sup> Using professional interpreters reduces communication errors, increases satisfaction with care, corrects disparities in health care use, and improves clinical outcomes for patients with limited English proficiency more than using ad hoc interpreters such as family or staff members.<sup>2</sup>

In British Columbia, Provincial Language Services has provided telephone interpretation in hospitals since 2003, and a 2014 pilot project brought this service to family physicians in six municipalities.<sup>3</sup> This

was received favorably by family physicians who used the service,<sup>3</sup> and it was expanded into the Primary Care Telephone Interpreting Service Pilot Project in October 2017, thereby making Provincial Language Services interpretation available to all family physicians at no cost.<sup>4</sup> However, our experience suggests that this service is not used consistently.

Existing literature indicates that language interpretation is underused in most health care settings, including primary care,<sup>5,6</sup> even when it is provided free of charge.<sup>7–10</sup> Additionally, while a few primary care clinics provide interpretation to a meaningful number of patients, they are a minority.<sup>9,11</sup> Recognized barriers to using interpretation include lack of awareness of interpretation services or the perception that access is difficult to arrange<sup>3,5,9</sup> and the perceived adequacy and convenience of using ad hoc interpreters, second-language skills, or gestures, despite issues with accuracy and confidentiality.<sup>12,13</sup> However, there has been no published BC-specific literature since publicly funded telephone interpretation was made available in primary care province-wide through the Primary Care Telephone Interpreting Service Pilot Project.

We describe the pattern of uptake of the Primary Care Telephone Interpreting Service Pilot Project by BC family physicians and highlight areas where it may be underused.

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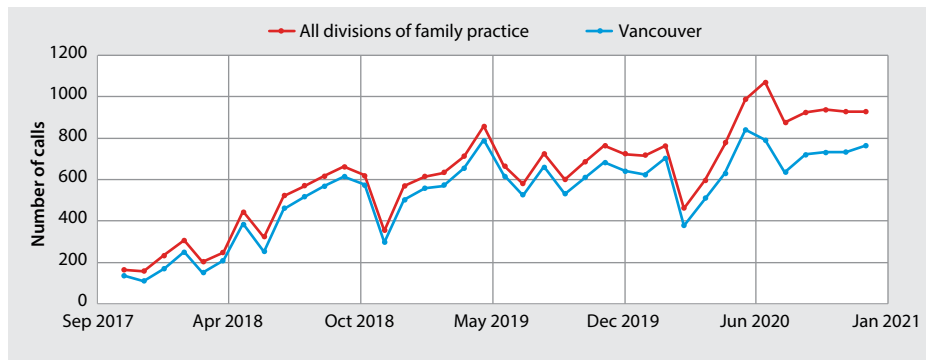


FIGURE 1. Monthly call volume.

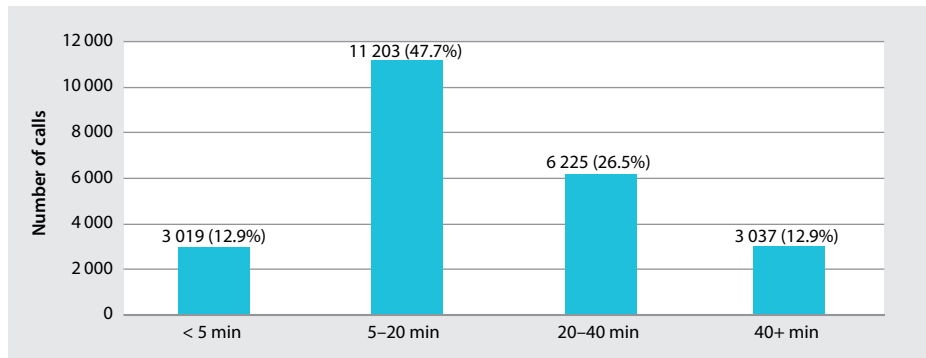


FIGURE 2. Call duration.

TABLE 1. Languages requested by BC family physicians for interpretation, November 2017 to December 2020, compared with the number of speakers who had a single response for mother tongue (data from Provincial Language Services and the 2016 Canadian census).

Language	Number of calls in BC (%)	Number of calls in Vancouver (%)	Number of speakers in BC, by mother tongue (single response, % of non-English)
Arabic	10 076 (42.9)	9 450 (47.1)	17 480 (1.3)
Farsi	3 459 (14.7)	3 406 (17.0)	43 470 (3.3)
Spanish	2 467 (10.5)	1 899 (9.5)	47 010 (3.5)
Somali	1 067 (4.5)	1 061 (5.3)	1 270 (0.1)
Tigrinya	1 020 (4.3)	904 (4.5)	410 (0.03)
Vietnamese	1 016 (4.3)	358 (1.8)	27 150 (2.0)
Mandarin	769 (3.3)	240 (1.2)	186 325 (14.1)
Cantonese	429 (1.8)	279 (1.4)	193 530 (14.6)
Dari	429 (1.8)	427 (2.1)	Not listed (closely related to Farsi)
Sorani	418 (1.8)	388 (1.9)	Not listed (central Kurdish dialect)
Punjabi	356 (1.5)	228 (1.1)	198 805 (15.0)
Sudanese Arabic	255 (1.1)	252 (1.3)	Not listed (various varieties of Arabic in Sudan)
All other languages	1 723 (7.3)	1 176 (5.9)	

Methods

Data were requested from Provincial Language Services for all telephone interpretation calls made from all divisions of family practice in BC from November 2017 to December 2020. For each call, we requested the date, duration, language requested, geographic region, and name of the caller. Our primary outcomes were total number of calls per month, total number of calls per language, total number of calls per geographic region, average length of call, and proportion of family physicians that used the service, as well as frequency of usage by individual family physicians. Data analysis and graphing were performed using Microsoft Excel. Data were compared to publicly available data on physicians in BC (e.g., College of Physicians and Surgeons of BC directory, Google search results) to identify demographic patterns among the top 10 users. We used publicly available census and billing data to estimate limited English proficiency prevalence in the 10 divisions of family practice with the highest usage, as well as to estimate limited English proficiency encounter frequency (see [Appendixes 1 and 2](#) and [Tables S1 and S2](#) at [bcmj.org](http://bcmj.org) for detailed calculations).<sup>14-16</sup>

Data were stored on the primary investigator’s OneDrive account at the University of British Columbia. This study was approved by the UBC Behavioural Research Ethics Board and the Provincial Health Services Authority’s FOI Office, Information Access Privacy.

Results

General statistics

Between November 2017 and December 2020, 23 484 calls were made through the Primary Care Telephone Interpreting Service Pilot Project. Usage increased over this period from 164 calls in November 2017 to 927 calls in December 2020 [Figure 1]. The median and average call durations were 16 minutes and 21 minutes, respectively (range 1 to 266 minutes). Calls between 5 and 20 minutes made up most of the calls [Figure 2].

### Languages requested

The most requested languages were Arabic and Farsi; they made up 58% of the calls during the study period. **Table 1** shows the top 12 languages requested through the Primary Care Telephone Interpreting Service Pilot Project and compares this with the number of people in BC who described each language as their only mother tongue in the 2016 Canadian census.<sup>15</sup>

### Regional patterns

The Vancouver Division of Family Practice accounted for 85.5% (n = 20 068) of the calls made during the study period; Surrey–North Delta was the second highest at 3.6% (n = 838). For all of BC, the number of

calls per 100 people with limited English proficiency was 15.1. Vancouver had 46.9 calls per 100 people with limited English proficiency, followed by Nanaimo (38.4) and Shuswap North Okanagan (38.4). From there, the ratios declined significantly, with South Okanagan Similkameen and White Rock–South Surrey at 11.8 and 11.3, respectively [**Figure 3**].

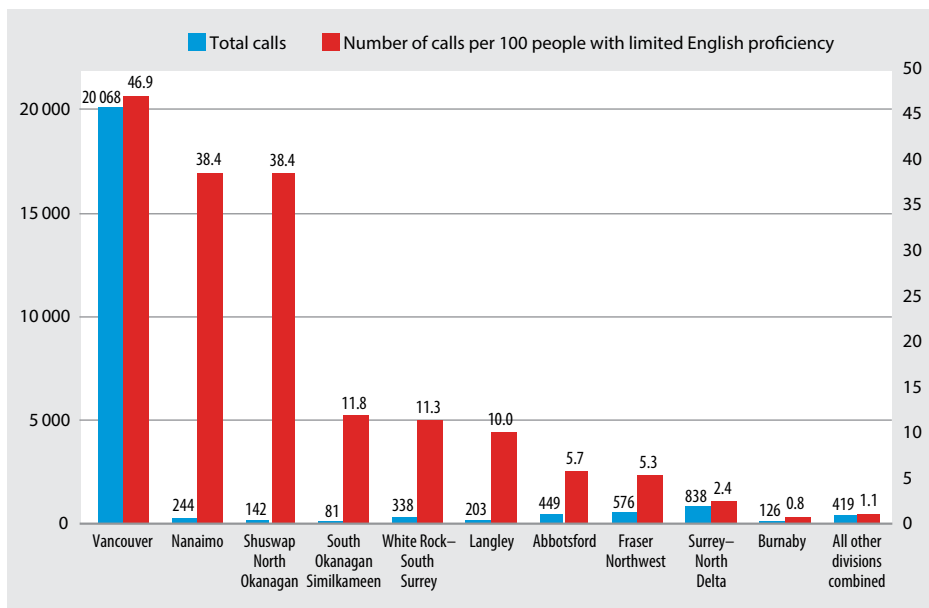
### Vancouver

When examining the use of the service in Vancouver, patterns were similar to those for the rest of BC. The volume of calls increased over the course of the study period [**Figure 1**]. The top 12 languages were similar, but there were higher percentages of Arabic,

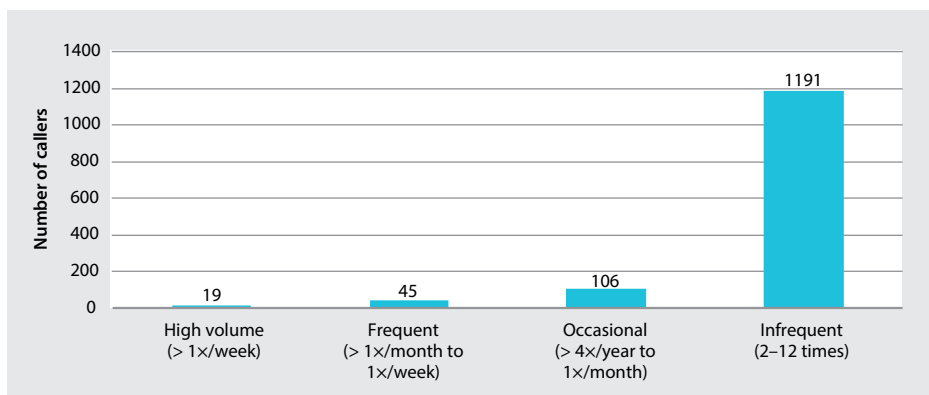
Farsi, Somali, Tigrinya, Dari, Sorani, and Sudanese Arabic, and lower percentages of Spanish, Vietnamese, Mandarin, Cantonese, and Punjabi [**Table 1**].

### Caller patterns

Usable caller name data were available for 22 423 calls; 7159 had unique caller names. There were numerous misspellings of caller names, which resulted in the data generating more unique caller names than there are family physicians in BC. Of those users who made at least two calls, most (87.5%) had infrequent use (2 to 12 times) during the study period [**Figure 4**]. The top 10 users made 5219 calls, or 22.2% of all calls, during the study period. Six of those users were identified through the College of Physicians and Surgeons of BC directory: all of them were male, working in urban settings in the Lower Mainland, with 6 to 42 years of practice. Five had English only listed on the public directory, and one was bilingual. Of note, one of those users was a specialist physician (hematology). Of the four callers not identified in the College’s directory, all were in an allied health position (two registered nurses, one nurse practitioner, and one social worker). Nine of the top 10 users called from the Vancouver division; the other user called from Surrey–North Delta.



**FIGURE 3.** Number of calls by division of family practice.



**FIGURE 4.** User groups, excluding one-time users.

### Frequency of encounters with limited English proficiency

Based on calculations made using publicly available MSP billing data and BC-specific census language statistics, we estimated that in 1 year, 602 817 primary care visits in BC involved patients with limited English proficiency. Adjusting for the possibility that language concordance with the patient’s physician negated the need for an interpreter, we estimated that 524 752 primary care visits required interpretation each year. Detailed calculations are provided in **Appendix 2 and Table S2** at [bcmj.org](http://bcmj.org). Based on this, the 9948 calls made through the Primary Care Telephone Interpreting Service Pilot Project in 2020 account for 1.9% of visits that likely required interpretation.

## Discussion

While our results are consistent with low rates of use of interpretation services previously reported in other jurisdictions,<sup>8,17,18</sup> they provide new information on the use of telephone interpretation services in family medicine in BC. This is clinically relevant because BC has one of the highest levels of interpretation services for primary care across Canada.<sup>19</sup> Our estimate that 1.9% of primary care visits involving language barriers used telephone interpretation suggests that the Primary Care Telephone Interpreting Service Pilot Project is still vastly underused despite its widespread availability.

Barriers to uptake of interpretation in primary care that were previously identified include time pressure and preference for alternative strategies such as using ad hoc interpreters or getting by without interpretation.<sup>3,5,9</sup> However, our findings suggest that use of telephone interpretation does not result in exceedingly longer visits: most calls are less than 20 minutes in duration. Moreover, the use of telephone interpretation may result in a more effective and efficient visit compared with alternatives such as using translation applications or ad hoc interpreters who are not professionally trained.

The most requested languages did not correlate with the prevalence of non-English mother tongues. We hypothesize that one reason for this is migration trends. During the study period, five of the most requested languages (Arabic, Tigrinya, Farsi, Kurdish, and Dari) were among the most common mother tongues of resettled refugees in BC,<sup>20</sup> whereas the prevalence of Farsi, Spanish, and Vietnamese may be due to Iran, Mexico, and Vietnam being among the most common source countries of temporary residents.<sup>21</sup> Patterns of interpretation usage may be a result of care provided to these populations, wherein the need for interpretation may be more obvious. A summary of these open government data is provided in **Tables S3–S6** available at [bcmj.org](https://bcmj.org).

A second reason why the most requested languages did not correlate with the prevalence of non-English mother tongues

could be language concordance between physicians and patients. The most common non-English languages—Punjabi, Mandarin, and Cantonese—are spoken in 13.6% of BC homes, which lends strength to the assumption that there are more health care providers who are able to converse in these languages; therefore, they do not need to use interpretation.<sup>15</sup> Additionally, there could be a greater availability of family members who

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of addressing language barriers when obtaining consent to treatment, highlights some of the concerns with use of family members and ad hoc interpreters, and recommends professional interpretation.<sup>25,26</sup> Provincial Language Services provides telephone interpretation for more than 200 languages; it is easily accessible to BC family physicians; is available 24 hours a day, 7 days a week; and is often available on demand, although prebooking may be required for some less common languages.<sup>27</sup> Physicians must contact this service exclusively, but point-to language cards can be printed off for patients to use. Additionally, with funding from Doctors of BC, a pilot project conducted in 2023 made this service available to community specialists. See the **Box** for details on how to access this service.<sup>28</sup>

### Study limitations

Our study has several limitations. First, given the high number of inaccuracies in the spelling of caller names, we were unable to accurately calculate the frequency of use of the interpretation service or the proportion

#### **BOX. Instructions to access telephone interpretation services and obtain access codes.**<sup>27,28</sup>

##### **How to access telephone interpretation services**

1. Call the phone number for your group:
  - a. Family physicians: 1 844 340-8224 or 1 877 228-2557  
(Contact your division for which of these phone numbers to use.)
  - b. Specialists: 1 833 718-2154
2. Select the language required.
3. Enter your access code (4 digits; see below).
4. State your first and last name.
5. Wait for the interpreter to come on the line (typically 30–60 seconds).

##### **How to obtain access codes (no sign-up is required for this service)**

- Family physicians (three options; access codes are required for all divisions):
  - Log in to the members-only page of your division of family practice.
  - Contact your division for the code directly.
  - Search “interpreter services” on Pathways.
- Community specialists:
  - Email [sscbc@doctorsofbc.ca](mailto:sscbc@doctorsofbc.ca).

of family physicians that used it. Second, we relied on publicly available aggregate data (e.g., 2016 census, MSP billing); therefore, our estimates of limited English proficiency prevalence and encounter frequency may differ from the true population values. Third, we were unable to obtain information on calls made in October 2017 due to a difference in data collection and storage methods.

### **The use of telephone interpretation may result in a more effective and efficient visit compared with alternatives such as using translation applications or ad hoc interpreters who are not professionally trained.**

Fourth, our outcome of user patterns was limited by the availability of information in the College of Physicians and Surgeons of BC directory. We were unable to ascertain information on other factors that could play a role in the use of interpretation services, such as practice settings that specifically support people with limited English proficiency, payment structure, and availability of other interpretation services. Last, we did not examine reasons for and against use of telephone interpretation among health care providers.

### Conclusions

While usage of the publicly funded telephone interpretation service in BC has increased since November 2017, uptake is still low among family physicians. Uptake was highest in Vancouver and for languages that are common among refugee and new immigrant groups. The duration of calls was within the typical time frame of a primary care visit. Future research and policy should examine and address barriers to using professional interpretation services by BC family physicians, with the goal to better serve patients with limited English proficiency.

### Competing interests

None declared.

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**Future research and policy should examine and address barriers to using professional interpretation services by BC family physicians, with the goal to better serve patients with limited English proficiency.**

Anton R. Miller, MBChB, FRCPC, Emily Gardiner, PhD, Vivian Wong, BA

# Navigational support for families with children who have special developmental needs

Improving connections between clinicians and other providers of navigational support will ensure that they can do their best for children, youth, and families living with neurodisability and that their work is visible and valued on the health care continuum.

**ABSTRACT:** We describe a province-wide quality improvement initiative aimed at the experience of families who have a child with neurodevelopmental special needs (neurodisability) as they seek to connect with needed services and supports. We used patient and family navigation as the strategy of primary interest. Navigation seeks to make disconnected services and supports more accessible and individualized to each patient's and family's needs. Three barriers that reduce the efficiency and effectiveness of existing resources in BC were identified: the nature and scope of navigation and navigational work are not well known or well understood, providers of navigational

support are not always aware of others who provide support or the details of their work, and service providers whose primary role is clinical interventions aimed at children and youth are often unaware of or unfamiliar with family support navigation providers. Ways to improve family support navigation services and experiences include providing parents with peer-to-peer supports, tailoring navigational approaches to the patient's and family's needs, providing a centralized resource that navigators and other providers can easily use, ensuring navigators remain connected to one another, simplifying the system of services and supports, developing closer connections with existing provincial resources such as HealthLink BC 8-1-1 and BC 211, and raising clinical service providers' awareness of dedicated navigators and agencies. We argue for closer collaboration between those who provide navigational support as their primary role and those who provide it as a secondary or incidental role within a primarily clinical or therapeutic role, and we provide useful information and resources to enable clinicians to bridge this gap.

Children and youth with special developmental needs (neurodisability) represent up to 9% of the general population of children in Canada.<sup>1,2</sup> The terms *neurodisability* and *neurodevelopmental disorders and disabilities*<sup>3,4</sup> encompass developmental delays, autism spectrum disorder,

attention deficit hyperactivity disorder, and intellectual disability, as well as medical conditions associated with developmental challenges, such as cerebral palsy, fetal alcohol spectrum disorder, Down syndrome, and other genetic conditions. Affected children and youth require services and supports to promote and optimize their developmental potential; address challenges with mobility, communication, learning, and daily living skills;<sup>5</sup> and address issues with social-emotional-behavioral functioning, which frequently co-occur.<sup>6</sup> Parents and families may themselves require services and supports to enable them to fulfill the crucial role they play in nurturing healthy development.<sup>7</sup>

Services and supports for children and youth with neurodisability are usually needed over the course of the childhood years and into adulthood, often from a diverse array of sources. There is ample documentation on how families struggle to identify and access the services and supports they need over time and to navigate the terrain of systems that may be obscure, siloed, and poorly coordinated.<sup>8-11</sup>

Patient navigation has emerged as a useful strategy in health care and is relevant to most forms of complex care, including childhood neurodisability. In this context, we expand the focus of care and services to include medical, rehabilitation, education,

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*This article has been peer reviewed.*

and social services, all of which affect the healthy development and well-being of affected children and youth. Patient navigation seeks to make disconnected services more accessible, coordinated, integrated, and individualized to each patient’s and family’s needs. Those in navigator roles assist individuals and families by providing information and emotional support and by working to reduce existing barriers.<sup>5,12</sup> Physicians may not see themselves as navigators, but by providing longitudinal care in community settings, they have an important role to play: supporting patients and families in navigating the existing patchwork of programs and agencies, and helping them identify and connect to needed services and supports.

Our aims are threefold: (1) to raise awareness among physicians in BC of the vital role that family support and navigation can and should play in the life and experience of these families; (2) to disseminate the most salient learnings from our work in this area; and (3) to summarize the key resources that physicians, particularly family practitioners and pediatricians, need to know about to work in synergy with existing navigational resources.

**Improving navigational supports and services**

With support from the Kids Brain Health Network, work to date has examined how navigation support services for children and youth with neurodisability and their families currently work in BC and has been aimed at improving the status quo through engagement and collaboration with stakeholders. The project provincial advisory group, which included representation from the affiliated academic health centre, government (BC Ministry of Children and Family Development), community-based agencies with a central mandate to support families in which a child has a neurodisability, and parents of affected children and youth, determined at the outset that there was no need to create a new navigational support system for BC because many individuals and agencies

already provide navigation as a central part of their mandates. However, the provincial advisory group identified three barriers that reduce the efficiency and effectiveness of existing resources but are amenable to efforts to improve the situation:

1. The nature and scope of navigation and navigational work for this population are not well known or well understood in BC. This includes basic terminology and consensus about activities that fall in and out of scope.
2. Individuals and agencies that do navigational support work do not always know who else is doing this kind of work or the details of what others are doing (or aiming to do).
3. Service providers whose primary role is clinical interventions aimed at children and youth but who do navigational support work “off the side of their desks” are often unaware of or unfamiliar with the family support navigational players and agencies for whom this is a primary mandate.

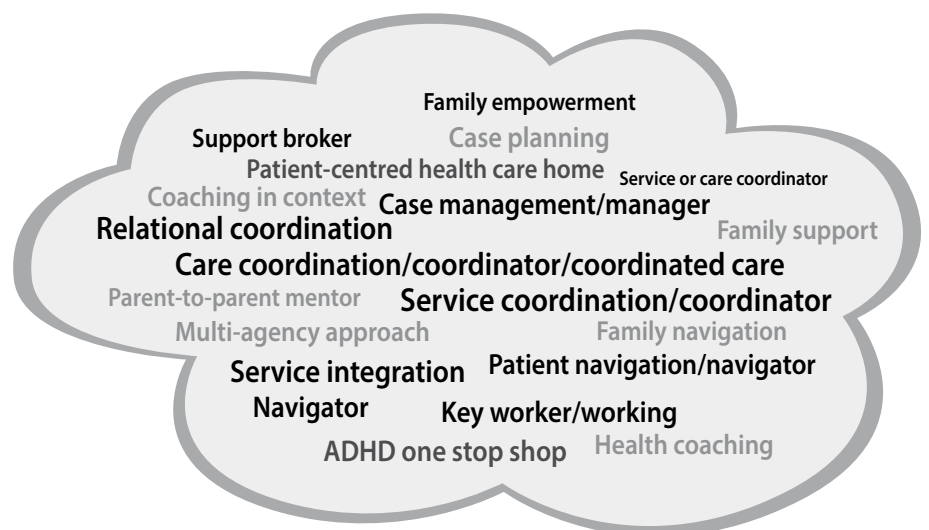
**Key concepts underpinning navigation, and range of terminology**

Our understanding of the key components of navigation for children with neurodisability and their families emerged from activities undertaken to address barriers 1 and 2: a scoping review of the relevant

literature,<sup>13</sup> surveys of service providers and families in BC during the course of the project (unpublished), and a virtual summit on navigation<sup>14</sup> (with a subsequent summit regroup convened 8 months later). The main summit convened more than 120 professionals and families over the course of two half days and featured presentations from family members, service providers, and researchers about family support navigation for children and youth with neurodisability. Attendees also participated in various collaborations and facilitated exchanges, in which they considered what could be done to improve navigation supports and related activities for families and to build a provincial community of navigation.

Two main conclusions resulted from these activities. First, numerous terms are used to describe various interrelated activities related to navigation, as illustrated in the word cloud [Figure 1] that was created from the terms that were extracted; each term’s size is based on the frequency with which it arose in our scoping literature review. Our surveys and summits similarly showed that real-world professionals had job titles that comprised many of these terms.

Consultations with stakeholders and partners did not provide a single, clear solution for how to refer to this kind of work in the context of childhood



**FIGURE 1.** Range of terminology used for the navigation care coordination function.

Source: Created by Dr Emily Gardiner, 2019.



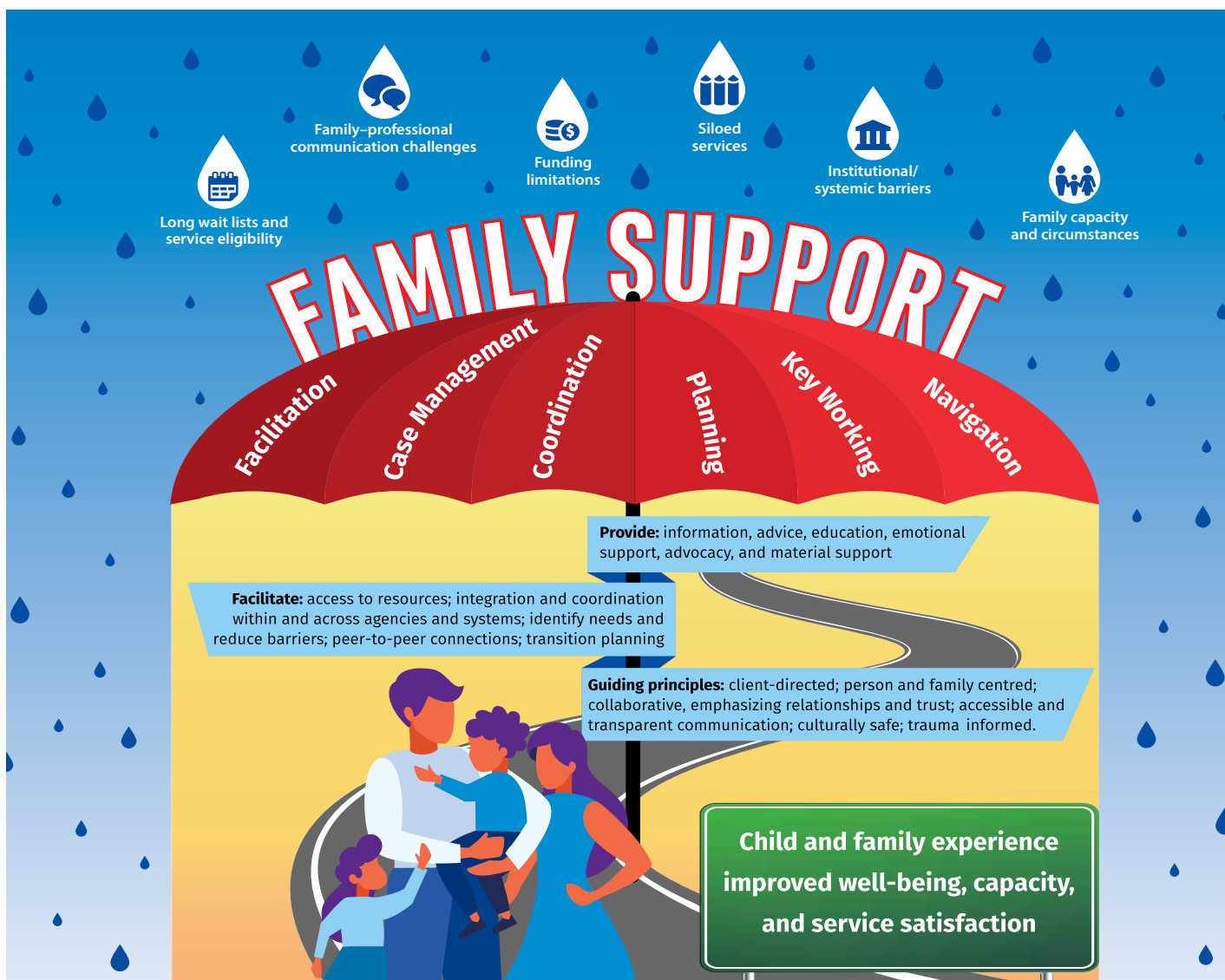
neurodisability. The term “family support navigation” emerged as a highly relevant hybrid term, even when used as a placeholder. That term can arguably be extended to include the closely related concepts of care or service coordination.<sup>13</sup>

Second, the aggregate of interrelated activities that constitute family support navigation was comprised of three fundamental components: providing functions, facilitating functions, and a set of guiding principles [Table 1].

The main learnings related to terminology and concepts of family support navigation are depicted in Figure 2.

**TABLE 1.** Domains characterizing family support navigation for children with neurodisability.

Providing	Facilitating	Guiding principles
<ul style="list-style-type: none"> <li>Information, advice, education, and intervention.</li> <li>A single point of contact for family.</li> <li>Emotional support (e.g., crisis support, counseling).</li> <li>Advocacy for specific individuals and families and for broader system change.</li> <li>Material/instrumental support.</li> </ul>	<ul style="list-style-type: none"> <li>Access to resources.</li> <li>Integration/coordination of resources, supports, and services within and across disparate and complex services, agencies, and systems.</li> <li>Identification of individualized needs.</li> <li>Identification and reduction of barriers.</li> <li>Continuous and timely service engagement.</li> <li>Peer connections/networking.</li> <li>Transition planning.</li> </ul>	<ul style="list-style-type: none"> <li>Client directed and family centred—family is at the centre (respect for family voice and expertise).</li> <li>Flexible and individualized to the family.</li> <li>Collaborative and cooperative.</li> <li>Relationship and trust based.</li> <li>Accessible and transparent communication.</li> <li>May be brief and time limited or a long-term partnership.</li> <li>Person centred.</li> <li>Safety and harm reduction.</li> <li>Culturally safe and sensitive.</li> <li>Trauma informed.</li> </ul>



**FIGURE 2.** Synthesis of main learnings related to the nature, purpose, and terminology of navigation.

Source: Created by Angela Chan Design for the BC Navigation Project research team, 2021.

### Improving family support navigation services and experiences

The January 2021 navigational summit provided a number of main findings and takeaway messages regarding how key stakeholders view the path forward for improving family support navigation services and experiences in BC:

- Peer-to-peer supports are highly valued by parents.
- Navigation approaches must be individualized; there is no “one-size-fits-all” approach.
- There is a need for a centralized web-based resource primarily for the use of people engaged in navigational support work.
- Navigators want to remain connected to one another.
- There is a need to simplify the system of services and supports for children with neurodisability and their families.

These key points were affirmed at a BC navigation summit regroup in September 2021. It was also suggested that closer connection with existing provincial resources be developed (e.g., HealthLink BC 8-1-1 and BC 211 [<https://bc.211.ca>])—a free information and referral resource) and that knowledge translation for clinical service providers (e.g., community physicians) be conducted to raise awareness of dedicated navigators and agencies and to promote referrals to them. Knowledge translation is part of addressing barrier 3.

### Key resources for family support navigation services

Information on navigational and family support agencies and organizations in BC was assembled from an environmental scan, surveys, material submitted at registration and during the course of both summits, and referrals from partners [Table 2]. It is not exhaustive but serves more as a framework, and it provides exemplars of organizations and agencies rather than a comprehensive list of all of them. We hope this information will better equip physicians and their staff in finding relevant resources within their own communities to help the children, youth, and families they care for.

### Conclusions

Throughout this project, a distinction arose between professionals doing family support navigation work as a primary role versus doing it off the side of their desk, even though it is not a simple matter for many professionals to separate these two roles at the front lines of patient care. Side-of-desk assistance with navigation and support of families is often asked of providers whose primary mandate is clinical care of the child. Many providers will be asked to also help the child’s family navigate a complex, opaque, and disparate array of services, supports, programs, and providers—for example, “Where can we find help or support for their sleep issues?” or “How do we pursue our need for respite care?”—problems and situations that arise from or coexist with the child’s primary area of impairment or disability. Families want, and need, to know how to go about connecting to those who provide this help or support.

We have sought to bring explicit focus to the family support navigation work that complements a more traditional view of the child or youth as patient. The World Health Organization’s International Classification of Functioning, Disability and Health<sup>15</sup> recognizes the patient’s environment as a key contextual factor affecting health outcomes; this is particularly salient in the case of children with neurodisability or other chronic complex care needs. In this context, “environment” refers primarily to the family, but also to available services and supports the child and family have to connect to. The role of family in contemporary child health care, particularly for those with disabilities, is well expressed by Dr Peter Rosenbaum, professor of pediatrics at McMaster University and co-founder of the CanChild Centre for Childhood Disability Research (email communication, 2 August 2022; see also<sup>16,17</sup>):

“It is a truism in child health—but one too easily ignored—that the unit of interest for all health care providers must be the child’s family—the children’s ‘agents’ and advocates, who seek help on behalf of their children and are expected to carry

out the best of the advice offered by health professionals.”

Physicians straddle the divide between providing clinical service and helping families find and connect to services. Importantly, they do not need to provide all the family support navigation work themselves. In the United States, there has been interest in, and some programmatic funding directed at, establishing “medical homes” for children and youth with complex care needs, including neurodisability.<sup>18,19</sup> This envisages the pediatrician, in close collaboration with allied disciplines and staff, providing an expanded range of services and supports, which extend to the care coordinating as family support navigation roles.<sup>20</sup> Innovative hospital-based models are beginning to emphasize the role of allied disciplines, such as social work, in providing longitudinal and supportive care to children and families, which will take the pressure off physicians.<sup>21</sup> There may be scope to advance the navigational aspect of care in BC, even though the funding context for physician and allied professional services is very different in BC than in the United States.

One way would be to explore innovations for this kind of service to be office or practice based, such as employing “teams” for chronic condition care that include nurse practitioners and/or social workers.<sup>22</sup> Even within current parameters, it seems feasible to explore whether office staff who are properly prepared and informed can assist with this role by helping identify the family’s needs and knowing what services and resources are locally available. Another approach would have the navigation support person based in a community agency but be more closely linked with one or more physicians and practices. This would require investment in establishing closer, deeper, and reciprocal links between these professionals. An important first step is for physicians to learn more about existing agencies and organizations, both those in the immediate community and those with a provincial scope, that provide family support navigation services as a primary mandate. One of our aims is to bring the existence and

**TABLE 2.** Navigational and family support agencies and organizations in BC.\*

Agencies, organizations, and programs	Exemplars	Types of roles	Notes
<b>GROUPED BY AGE/LIFE STAGE OF CHILD</b>			
A. Pre-kindergarten (“early years”)	Child development centres (CDCs)	CDCs may have: <ul style="list-style-type: none"> <li>• Family resource navigators</li> <li>• Early years navigators</li> <li>• Family support workers</li> <li>• Family service coordinators</li> </ul>	<ul style="list-style-type: none"> <li>• Most communities have a local not-for-profit agency that delivers services to children and youth with support needs. They are often called CDCs but may go by a different name in some communities.</li> <li>• CDCs differ in whether and how they provide family support navigation. For a starting place to look for a CDC (or equivalent), visit the BC Association for Child Development and Intervention website (<a href="http://www.bcacdi.org/bcacdi-member-agencies">www.bcacdi.org/bcacdi-member-agencies</a>).</li> </ul>
	Infant Development Program (IDP) ( <a href="https://alpha.gov.bc.ca/gov/content/health/managing-your-health/child-behaviour-development/assessing-child-development-38610">https://alpha.gov.bc.ca/gov/content/health/managing-your-health/child-behaviour-development/assessing-child-development-38610</a> )	The IDP is a home-based program serving children experiencing or at risk for developmental delays.	<ul style="list-style-type: none"> <li>• IDP consultants will usually try to provide family support navigation services alongside serving children.</li> </ul>
	Family Resource Programs of BC (FRPs) ( <a href="https://frpbc.ca/">https://frpbc.ca/</a> )	Five core areas of service: <ul style="list-style-type: none"> <li>• Family support</li> <li>• Play-based learning</li> <li>• Early learning and literacy</li> <li>• Parent education</li> <li>• Information and referrals</li> </ul>	<ul style="list-style-type: none"> <li>• FRPs often help families who have children with developmental delays and differences to navigate more specialized services.</li> </ul>
	Supported Child Development Program (SCDP) ( <a href="https://alpha.gov.bc.ca/gov/content/health/managing-your-health/child-behaviour-development/assessing-child-development-38610">https://alpha.gov.bc.ca/gov/content/health/managing-your-health/child-behaviour-development/assessing-child-development-38610</a> )	SCDP consultants support primarily young children in early learning settings and school-aged children up to 12 years; they may, however, help with family navigational support.	
B. School age			<ul style="list-style-type: none"> <li>• School-based supports are primarily to support the child’s or youth’s learning and participation. Some school districts may provide informal supports for families, and navigation.</li> </ul>
C. Transition to adulthood	Services to Adults with Developmental Disabilities (STADD) ( <a href="http://www2.gov.bc.ca/gov/content/family-social-supports/services-for-people-with-disabilities/transition-planning-for-youth-young-adults">www2.gov.bc.ca/gov/content/family-social-supports/services-for-people-with-disabilities/transition-planning-for-youth-young-adults</a> )	STADD navigators	<ul style="list-style-type: none"> <li>• Help eligible young people with developmental disabilities, aged 16 to 24 years, to map out and pursue their vision for post-high school.</li> <li>• Not yet fully established in every region or community in BC.</li> </ul>
D. Across the lifespan	Family Support Institute of BC (FSI) ( <a href="https://familysupportbc.com/">https://familysupportbc.com/</a> )	The FSI connects families to trained volunteers who have family members with disabilities, to share their experiences, expertise, navigational supports, and advocacy, and to provide guidance. The FSI also offers workshops and support groups.	<ul style="list-style-type: none"> <li>• Committed to supporting families who have a family member with a disability of any kind.</li> <li>• Supports and services are free.</li> </ul>
	Ministry of Children and Family Development (MCFD) ( <a href="http://www2.gov.bc.ca/gov/content/governments/organizational-structure/ministries-organizations/ministries/children-and-family-development">www2.gov.bc.ca/gov/content/governments/organizational-structure/ministries-organizations/ministries/children-and-family-development</a> )	MCFD social workers in the Children and Youth with Support Needs program can provide family support and navigation services for eligible children and youth.	<ul style="list-style-type: none"> <li>• Support availability and levels vary.</li> </ul>

*Table continued...*

\*This table focuses on providers who offer family support navigation services as a primary role, in contrast to providers whose primary role is clinical interventions aimed at the child, the goals of which are typically to ameliorate the effects of an impairment and to optimize functional outcomes.

**TABLE 2** (continued). Navigational and family support agencies and organizations in BC.\*

Agencies, organizations, and programs	Exemplars	Types of roles	Notes
<b>GROUPED BY CONDITION</b>			
Autism spectrum disorder	Autism Information Services British Columbia (AIS BC) ( <a href="http://www2.gov.bc.ca/assets/gov/health/managing-your-health/autism/autism_brochure_english.pdf">www2.gov.bc.ca/assets/gov/health/managing-your-health/autism/autism_brochure_english.pdf</a> )  AutismBC ( <a href="http://www.autismbc.ca/">www.autismbc.ca/</a> )	Autism support specialists  Has a support program with staff who provide information and advice, including for life transitions, advocacy, and self-care.	<ul style="list-style-type: none"> <li>Autism support specialists assist the growing number of BC families affected by autism who need support in making informed decisions about treatment options.</li> </ul>
Fetal alcohol spectrum disorder (FASD)	Key worker and parent support agencies ( <a href="https://www2.gov.bc.ca/assets/gov/health/managing-your-health/fetal-alcohol-spectrum-disorder/key_worker_parent_support_agencies.pdf">https://www2.gov.bc.ca/assets/gov/health/managing-your-health/fetal-alcohol-spectrum-disorder/key_worker_parent_support_agencies.pdf</a> )	FASD key workers	<ul style="list-style-type: none"> <li>See link to key worker and parent support agencies PDF.</li> </ul>
Mental health concerns	FamilySmart ( <a href="https://familysmart.ca/">https://familysmart.ca/</a> )	Parent peer support program	<ul style="list-style-type: none"> <li>Aims to help children and youth with mental health concerns by helping their family and other caring adults.</li> <li>Not aimed primarily at children and youth with neurodisability but is included because mental health concerns are prevalent in this population.</li> </ul>
Permanent hearing loss	BC Early Hearing Program ( <a href="http://www.phsa.ca/our-services/programs-services/bc-early-hearing-program/resources-support">www.phsa.ca/our-services/programs-services/bc-early-hearing-program/resources-support</a> )	Guide By Your Side program	<ul style="list-style-type: none"> <li>This free program offers parents navigational supports and guidance following diagnosis, particularly regarding language and communication needs, and provides opportunities to connect with other parents.</li> </ul>
<b>GROUPED BY POPULATION</b>			
Indigenous	BC Association of Aboriginal Friendship Centres ( <a href="https://bcaafc.com/about-us/friendship-centres/">https://bcaafc.com/about-us/friendship-centres/</a> )	Various names: family connections worker, family navigator, outreach support worker	<ul style="list-style-type: none"> <li>Local Friendship Centres typically have a variety of child and family services and programming; these may differ depending on location.</li> <li>Centres often include a role dedicated to helping families connect with child development services and supports, Aboriginal Infant Development Programs, and Aboriginal Supported Child Development Programs.</li> <li>To find a local Aboriginal Friendship Centre in your community, visit the BC Association of Aboriginal Friendship Centres website (<a href="https://bcaafc.com">https://bcaafc.com</a>).</li> </ul>
	Aboriginal Infant Development Programs (AIDPs) ( <a href="http://www.aidp.bc.ca/aidp-programs">www.aidp.bc.ca/aidp-programs</a> )	AIDPs provide culturally sensitive support to families of young children (usually birth to 3 years) who are diagnosed with or at risk for developmental delays.	<ul style="list-style-type: none"> <li>As with the IDP and FRP, a navigational family support role is usually part of the portfolio of services provided, even if it is not referred to as navigation.</li> </ul>
	Aboriginal Supported Child Development Programs (ASCDPs) ( <a href="http://www.ascdp.bc.ca/programs">www.ascdp.bc.ca/programs</a> )	Designed to meet the needs of First Nations, Métis, and Inuit children who require additional support to be included in childcare settings, and their families. ASCDPs are developed with cultural values, beliefs, and traditions in mind.	

*Table continued...*

\*This table focuses on providers who offer family support navigation services as a primary role, in contrast to providers whose primary role is clinical interventions aimed at the child, the goals of which are typically to ameliorate the effects of an impairment and to optimize functional outcomes.

**TABLE 2** (continued). Navigational and family support agencies and organizations in BC.\*

Agencies, organizations, and programs	Exemplars	Types of roles	Notes
<b>GROUPED BY SETTING</b>			
BC Children's Hospital (BCCH) and Sunny Hill Health Centre (SHHC)	Neuromotor Program complex care coordination (SHHC)	Care coordinator/social worker	<ul style="list-style-type: none"> <li>• Provides navigational supports for patients and their families.</li> <li>• Supports the family across transitions from inpatient hospital to home and home to hospital. Helps the family navigate systems and supports local health care providers to care for the patient.</li> <li>• Specialized care coordination service for children who require care from neurological, mental health, and complex and developmental behavioral conditions.</li> </ul>
	Complex Care program (BCCH) ( <a href="http://www.bcchildrens.ca/our-services/clinics/complex-care">www.bcchildrens.ca/our-services/clinics/complex-care</a> )	Nurse key worker	
	Connect 4 Care (SHHC and BCCH)	Care coordinator/social worker	

\*This table focuses on providers who offer family support navigation services as a primary role, in contrast to providers whose primary role is clinical interventions aimed at the child, the goals of which are typically to ameliorate the effects of an impairment and to optimize functional outcomes.

scope of these providers to the attention of physicians. We hope the information in **Table 2**, while limited, will be a useful resource for physicians.

A final aim is to communicate some messages from this project that were heard consistently and that physicians should keep in mind: many families place importance on connecting with peers and peer supports during their journey; navigational supports defy a simple one-size-fits-all model, so it is important that options are available and families are empowered to seek what fits best for them; and navigators want to be better connected to each other and to clinicians to ensure that the work they do is visible and valued on the health care continuum and they can do their best for children, youth, and families living with neurodisability. ■

### Competing interests

None declared.

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Nicola Horwood, MD

# Osteoarthritis imaging: A survey of British Columbian doctors and evidence-based recommendations

Weight-bearing knee X-rays are critical in the diagnosis and management of osteoarthritis. Strategies should be employed to ensure knee X-rays are ordered weight-bearing.

**ABSTRACT:** Osteoarthritis is a common and debilitating condition that is rapidly increasing in prevalence worldwide, including in British Columbia.<sup>1</sup> Despite evidence dating back to the 1970s expressing the importance of weight-bearing X-rays for imaging knee osteoarthritis, studies have shown that most knee X-rays are ordered non-weight-bearing.<sup>2,3</sup> A simple four-question survey was administered to family physicians and orthopaedic surgeons throughout BC to assess the imaging practices for osteoarthritis. The surveyed orthopaedic surgeons unanimously responded that weight-bearing knee X-rays are important in the diagnosis of osteoarthritis and that an MRI is not necessary if X-rays reveal moderate osteoarthritis. In comparison, a portion of family physicians did not endorse the importance of weight-bearing X-rays. Based on the results, improved communication and education should be sought among physicians, orthopaedic surgeons, and radiologists.

## Background

Osteoarthritis is the most common type of arthritis and a major cause of disability in

the aging population. Over 6 million Canadians have arthritis, which costs the Canadian economy \$33 billion per year.<sup>1</sup> To relieve pain and suffering and get patients back to improved functionality and mobility, early recognition and timely referrals are required to get patients the treatment they require. Correct use of available imaging is crucial. The first step in this process involves primary care providers, who should order weight-bearing X-rays when history and a physical indicate a likely diagnosis of knee osteoarthritis. However, studies have shown that the majority of knee X-rays are non-weight-bearing.<sup>2,3</sup> A British study found that 98% of nontraumatic knee X-rays ordered by family physicians were non-weight-bearing.<sup>2</sup> This can result in treatment delays, because supine X-rays have been shown to underestimate the severity of joint space narrowing and often miss the diagnosis of osteoarthritis in mild to moderate cases.<sup>2,4-7</sup> Additionally, weight-bearing X-rays are better at detecting malalignments such as varus and valgus deformities.<sup>6</sup> It also increases health care costs and exposes patients to more radiation to have X-rays repeated if not done properly the first time.<sup>2,3</sup> Moreover, initial supine X-rays may take the practitioner down a wrong diagnosis path, leading to an unnecessary increase in MRI ordering, further delaying treatment.

When compared with arthroscopic findings, a series of weight-bearing X-rays are

adequate for the imaging of osteoarthritis.<sup>8,9</sup> Although MRI has been shown to be more sensitive for detecting mild osteoarthritis and is debatably better at assessing the progression of disease,<sup>10,11</sup> research shows that there is no clinically significant indication for MRI in the setting of osteoarthritis.<sup>3,12,13</sup> Therefore, it is recommended that no MRI be completed when X-rays show moderate or severe osteoarthritis, as it does not change management.<sup>14</sup> Unnecessary MRIs are problematic because of costs to the health care system, delays in referrals and subsequent surgeries, and increased wait times for necessary MRIs.<sup>3</sup>

Recent commentaries in the *BC Medical Journal* raise concerns about unnecessary musculoskeletal MRIs and incorrect imaging, including non-weight-bearing X-rays for lower extremities, which overload an already tasked system.<sup>15,16</sup> This study aimed to assess the investigation patterns of BC orthopaedic surgeons and family physicians by administering a simple survey. It was hypothesized that the survey results would demonstrate a discrepancy in imaging practices between family physicians and orthopaedic surgeons.

## Methods

### Survey

In collaboration with Vancouver Island representatives from the Choosing Wisely campaign, a four-question survey was

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*This article has been peer reviewed.*

developed. The survey questions were:

1. Is an MRI indicated if moderate hip or knee osteoarthritis is shown on plain X-rays? Yes/No.
2. Are weight-bearing/standing knee X-rays important in the diagnosis of osteoarthritis? Yes/No.
3. Have you read the Choosing Wisely guidelines? Yes/No.
4. What is your field of practice? Family medicine/Orthopaedic surgery.

These questions were selected based on the following Choosing Wisely recommendation: "Don't order a knee MRI when weight-bearing x-rays demonstrate osteoarthritis and symptoms are suggestive of osteoarthritis as the MRI rarely adds useful information to guide diagnosis or treatment."<sup>14</sup> The survey was developed on the Qualtrics platform and distributed using a secure link. The link was distributed to family physicians through local divisions of family practice and directly from local doctors. It was distributed to orthopaedic surgeons through a group email.

### Study group

The survey was distributed to family physicians and orthopaedic surgeons throughout BC. A total of 255 responses were recorded: 166 from family physicians, 86 from orthopaedic surgeons, and 3 from individuals who elected not to specify their discipline. The response rate from orthopaedic surgeons was over 50% of the approximately 150 BC surgeons who see or treat patients with lower extremity osteoarthritis. It is more difficult to calculate a response rate for family physicians. The survey link was sent by email to family physicians in one city from each of the four main provincial health authorities. The cities are not identified in this article; a few are quite small and could identify a smaller cohort of family physicians.

### Data analysis

The data were analyzed using the integrated statistics platform on Qualtrics called Stats iQ. Fisher exact tests were conducted to determine the association between the different variables.

### Results

Based on the statistical analysis, the main findings were as follows:

- A greater percentage of family physicians than orthopaedic surgeons indicated that weight-bearing X-rays are not important in the diagnosis of knee osteoarthritis.
- Of the three respondents who selected that an MRI is indicated when plain X-rays reveal moderate osteoarthritis, all were family physicians and only one had read the Choosing Wisely guidelines.
- A greater percentage of family physicians than orthopaedic surgeons had read the Choosing Wisely guidelines.

For the question "Are weight-bearing/standing knee X-rays important in the diagnosis of osteoarthritis?" 227 respondents selected "Yes" and the remaining 28 selected "No." When relating the responses between family physicians and orthopaedic surgeons, 16.3% of family physicians compared with 0% of orthopaedic surgeons said that weight-bearing knee X-rays are not important in the diagnostic process. The Fisher exact test revealed a *P* value of less than .000001, with effect size of 0.25. Additionally, there was no correlation between respondents who had read the Choosing Wisely guidelines (*P* = 1).

The response for question #2, "Is an MRI indicated if moderate hip or knee osteoarthritis is shown on plain X-rays?" was almost unanimous. Only 3 of 255 respondents selected "Yes." Of those three respondents, all were family physicians and only one had read the Choosing Wisely guidelines. These results were not statistically significant (*P* = .5).

Finally, 36% of respondents indicated that they had read the Choosing Wisely guidelines. When comparing the two disciplines, 26% of orthopaedic surgeons and 43% of family physicians indicated that they had read them. The Fisher exact test revealed a *P* value of less than .01, with effect size of 0.17.

### Discussion

The most effective imaging protocol for degenerative joint disease has been a popular research subject over the last 50 years. The earliest study, completed by Ahlback, identified the importance of completing knee X-rays weight-bearing.<sup>4</sup> Despite the established importance of weight-bearing X-rays, studies have shown that the majority of knee X-rays ordered by family physicians are non-weight-bearing.<sup>2,3</sup> Local orthopaedic surgeons have indicated that non-weight-bearing knee X-rays are problematic as they result in decreased identification of osteoarthritis, delays in referrals, increased need for repeat X-rays, and an increase in unnecessary MRIs. The survey results indicated a significant discrepancy in the pattern of X-ray ordering between family physicians and orthopaedic surgeons in British Columbia. Orthopaedic surgeons unanimously responded that weight-bearing X-rays are important, compared with 84% of responding family physicians. It is unclear what has contributed to the discrepancy. One reason could be that there is no provincial or federal guideline published for the recommended workup of degenerative knee disease to help practitioners decide which X-ray views to order. Therefore, it is often not until practitioners are referring the patient to an orthopaedic surgeon that they see a recommended series of X-rays. Based on a search of provincial orthopaedic group practices' referral forms, most include recommended X-rays, all of which recommend at least one weight-bearing view of the knee. As a general recommendation, any patient with more than 3 weeks of knee pain should get a series of weight-bearing X-rays, including weight-bearing anterior-posterior, lateral, skyline, and weight-bearing semi-flexed posterior-anterior/notch/tunnel/Rosenberg views, as X-rays are a cost-effective, readily available investigation that is sensitive at detecting most acute, degenerative, and malignant processes.<sup>7</sup>

MRI is a costly investigation that often has long wait times in BC. Despite an almost unanimous response that an MRI is

not indicated if X-rays show moderate hip or knee arthritis, local orthopaedic surgeons still remark that they receive many referrals for patients with previously completed knee or hip MRIs in the context of pre-existing osteoarthritis. Reasons cited for the MRI include persistent pain, mechanical symptoms, and possible avascular necrosis and labral tear. Even if these symptoms are related to internal derangement visible only on MRI, the treatment options and decisions for these patients are unchanged based on these findings.<sup>3</sup> Additionally, Bhattacharyya and colleagues have determined that the meniscal tears identified on MRI do not correlate with patients' symptoms.<sup>13</sup> In the absence of true locking symptoms, studies have looked at using arthroscopic procedures such as debridement and lavage or partial meniscectomy for treatment of knee symptoms in the context of osteoarthritis and have shown no benefits to such interventions.<sup>17,18</sup> The treatment of advanced osteoarthritis when conservative

management has failed is ultimately a joint replacement, and imaging should, therefore, focus on surgical planning, which requires only weight-bearing X-rays.

Initiatives such as Choosing Wisely (a Canadian initiative) have aimed to reduce unnecessary tests and investigations for many common conditions. The two recommendations relevant to this research are:

- “Don't order a hip MRI when x-rays demonstrate osteoarthritis and symptoms are suggestive of osteoarthritis as the MRI rarely adds useful information to guide diagnosis or treatment.”
- “Don't order a knee MRI when weight-bearing x-rays demonstrate osteoarthritis and symptoms are suggestive of osteoarthritis as the MRI rarely adds useful information to guide diagnosis or treatment.”<sup>14</sup>

Based on the study results, having read the Choosing Wisely guidelines was not correlated with a change in responses to either question. Further studies could be completed on intervention effectiveness and ways to clarify messaging, such as the implicit but not explicitly stated recommendation for weight-bearing knee X-rays.

Acknowledging that weight-bearing knee X-rays are likely a standard of practice for many practitioners, the following are possible changes that could increase awareness of imaging best practices. Some practitioners may already have knee X-rays programmed to be ordered weight-bearing on their EMR, but future interventions could include creating an osteoarthritis-specific option for X-ray requisitions on the EMR that would automatically order the appropriate weight-bearing views. Additionally, an easily searchable provincial guideline for suggested imaging for chronic knee pain would help provide further guidance for practitioners.

## Conclusions

Osteoarthritis is a prevalent and increasing burden of disability on BC's aging population. Correct imaging is important to guide management of patients and avoid overloading an already taxed system. For our

simple survey, significantly more orthopaedic surgeons than family physicians in BC responded that weight-bearing knee X-rays are important for the diagnosis of osteoarthritis. Although this is already a standard of practice for many practitioners, strategies should be employed to ensure knee X-rays are ordered weight-bearing in the future to increase the sensitivity of diagnosis, reduce repeated X-rays, reduce patient suffering, and reduce the number of wasteful MRIs.

## Limitations

The author acknowledges responder bias in this research, as respondents who engage in research are more likely to have read recent recommendations. Additionally, the response rate was lower in family physicians due to limitations in the distribution of the survey. Therefore, responses may not be an accurate representation of the general physician population. Finally, question #1 regarding knee and hip MRIs specified moderate arthritis in accordance with the BC Guideline *Appropriate Imaging for Common Situations in Primary and Emergency Care*: “In the absence of red flags, acute or chronic hip or knee pain with plain film x-ray evidence of moderate to severe osteoarthritis (OA) does not require MRI.”<sup>19</sup> Responses could have differed if the question had been phrased differently. ■

## Competing interests

None declared.

## Acknowledgments

The author would like to thank Dr Nimrod Levy for his guidance and valuable suggestions during the development of this article.

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—Chris Vriesema-Magnuson  
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**Dr Morley Sutter**  
1933–2021

When Dr Morley Sutter was a young lad, he occasionally complained about having to complete his assigned chores. His wise father would muse that “the only thing we really *have* to do is die.” Although this advice did not deter Morley from an enviable lifelong work ethic, he did complete this ultimate task peacefully early in the morning of 19 December 2021 in Vancouver. The world lost a gentle, kind man.

Born on his family’s farm near Redvers, Saskatchewan, in 1933 to Christian and Amelia Sutter, Morley spent his early years on the farm, then moved into town in his teen years. He attended the University of Manitoba, graduating from medicine in 1957 and attaining a PhD in pharmacology in 1963. After postdoctoral work at Cambridge University, Morley became a professor in pharmacology, first for 1 year at

the University of Toronto, then in the UBC Faculty of Medicine for 32 years. He retired as professor emeritus in 1998.

Morley met and married his love Virginia Laidlaw in 1957, and for 45 years they had many adventures together, often with their children. This included living and working in England, Sweden, and Australia, along with travels to Jamaica and Hong Kong. After the death of Virginia, Morley enjoyed the companionship of Connie Moore.

Morley was a humble man who put people at ease and a loyal, staunch friend and confidant. He was an intellect who loved to find evidence to support theories. Whether in the laboratory or discussing ideas, Morley was always quick-witted. He was a mentor for many graduate students, medical students, and others.

Music, especially jazz, was an important part of Morley’s life. He sang in the medical school choir, and he cut quite the figure on the dance floor. In his later years Morley would often sing to the staff who walked with him on his daily walks.

As a younger man Morley was a keen baseball and tennis player and was even known to throw a few curling rocks. In later years Morley loved to watch these sports on TV. He was involved with all his children’s sporting events, including umpiring and coaching baseball.

Morley will be lovingly remembered by his sons, Greg and Brent; daughter, Michelle; daughters-in-law, Michele and Teresa; son-in-law, Bill; and grandchildren, Gregory, Anson, and Amelia.

The family extends heartfelt thanks to staff at South Granville Park Lodge for

their outstanding care of Morley over the past several years.

—Michelle Sutter  
Thetis Island, BC



**Dr Juhn Atsushi Wada**  
1924–2023

Dr Juhn Wada, who developed the Wada test used worldwide for establishing cerebral dominance for language and memory, passed away peacefully at his home in Vancouver on 23 April. He had just celebrated his 99th birthday. Dr Wada was a neurologist at UBC Hospital and Vancouver General Hospital (VGH) and professor emeritus in the Department of Psychiatry at the University of British Columbia. He was an Officer of the Order of Canada (1992) and a recipient of the Japanese Order of the Sacred Treasure, Gold and Silver Star (1995), and was honored with the Lifetime Achievement Award from the International

League Against Epilepsy and International Bureau for Epilepsy (2013).

Born in Tokyo in 1924, Dr Wada received his MD (1946) and his MedScD in clinical neurophysiology (1950) from Hokkaido Imperial University in Sapporo, Japan, where his father had been a professor of international law. As an assistant professor of neurology and psychiatry (1951–1954), he organized the EEG laboratory and developed the Brain Surgery Unit, which later became the Department of Neurosurgery. In 1954, he traveled to the University of Minnesota as a fellow in neurology (Dr A.B. Baker) and neurophysiology (Dr Ernst Gellhorn) and in 1955 to the Montreal Neurological Institute-Hospital of McGill University Health Centre as a fellow in neurosurgery (Dr Wilder Penfield) and neurophysiology (Dr Herbert Jasper).

Dr Wada moved to UBC in Vancouver in 1956, where he would spend the rest of his career, with a clinical office for epilepsy patients across Canada and a research office that led to most of the 11 books he edited and the 323 papers on human brain asymmetry, the neurobiology of epilepsy, and kindling published in his lifetime. He became a Canadian citizen in 1961. From 1966 to 1994 he was an associate of the Medical Research Council of Canada. At UBC Hospital, he established the Epilepsy Surgery Program with neurosurgical colleague Dr Gordon Thompson (1961), was director of the EEG Department (1969–1994), and established the Seizure Investigation Unit (1980).

Dr Wada was founding president of the Canadian League Against Epilepsy (CLAE; 1977–1979), president of the American Clinical Neurophysiology Society (ACNS; 1985–1986), and president of the American Epilepsy Society (AES; 1989). He was particularly proud of being able to strengthen relationships between Canada, Japan, and the United States.

Dr Wada received a doctor of science, *honoris causa*, from UBC (2003) and was recognized with numerous awards, including the CLAE Wilder Penfield Gold Medal Award (1988, 2007), the AES Founders

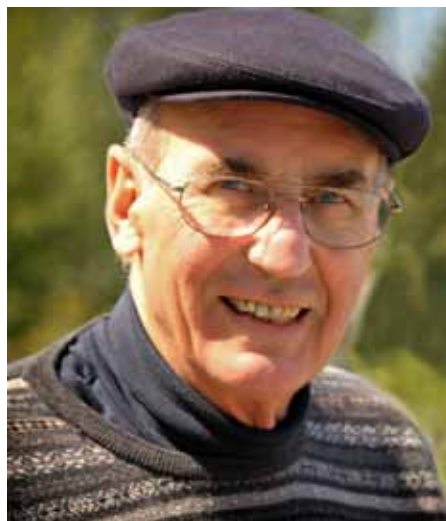
Award (1998), the ACNS Herbert H. Jasper Award (2001), and a Queen Elizabeth II Golden Jubilee Medal (2002) and Diamond Jubilee Medal (2012). In 2019, Dr Wada was accorded the highest accolade that a VGH–UBC Hospital medical staff member can receive, being inducted into the hospital’s Hall of Honour at an event presided by the Honorable Janet Austin, Lieutenant Governor of British Columbia.

Dr Wada was predeceased by his beloved wife, Mary, in 2019 and is survived by his children, Kent (Los Angeles, CA) and Eileen (London, UK).

—Eric M. Yoshida, MD  
Vancouver

—Brenda Kosaka, MD  
Vancouver

—Wada Family  
United States and United Kingdom



### Dr Michael Templeton Scott-Kerr, 1935–2023

We are sad to announce that on 26 February 2023, Dr Michael Templeton Scott-Kerr passed away at home in Victoria, surrounded by his family, after a courageous battle with prostate cancer. He is survived by his loving wife, Eleanor; sons, Christopher (Debbie) and Ian (Vanessa); grandchildren, Connor, Chloe, Annabelle, and Mikayla; brother, Dougie (Enid); and niece, Fiona (James), and family.

Mike received his medical degree from Pembroke College, at Cambridge University. He completed his residency at Guy’s Hospital in London, winning the Golding Bird Gold Medal in Obstetrics and Gynecology and being admitted to the Royal College of Surgeons of England and the Royal College of Physicians of London in 1960. Mike completed a 1-year residency in anesthesia at the University of Alberta Hospital in 1964. He worked in Nelson and in Nanaimo as a GP/anesthetist until 1973.

Mike completed his specialization in anesthesia in 1975 at Vancouver General Hospital and practised at St. Mary’s Hospital in New Westminster until he retired in 1994. He then returned to Vancouver Island and did locum work in Nanaimo before fully retiring in 1998.

Mike was born in Eccleshall, Staffordshire, UK, on 19 October 1935. His family moved to Cheltenham in 1939. With the outbreak of the Second World War, he was evacuated to Northern Wales to attend boarding school. He returned to Cheltenham in 1943 to finish his schooling at Cheltenham College, where he excelled at sports, achieving awards in rowing (he was the stroke for the college four), handball, and track. Mike was also a member of the Boy Scouts for many years. During his time in Scouts, Mike became a first-class scout with honors and a troop leader, and he traveled to Norway with them. After the war, the family would vacation in France, with stops at his uncle’s winery in Nuits-Saint-Georges, a commune in the Burgundy region of Eastern France. After high school, Mike embarked on a 3-week cycling holiday through Normandy, France, with a friend.

Mike enjoyed bridge, traveling, gardening, history, geology, and, most of all, wine. He spent much time in retirement sourcing grapes and making wine, which he shared generously. During his working years, he enjoyed golf and squash. The family went on summer vacations across Canada and the western United States as well as Spain to visit his parents.

Mike also enjoyed many trips with Eleanor to Mexico, exploring much of the

## OBITUARIES

country, as well as trips to Hawaii, Portugal, Spain, Italy, Greece, France, New Zealand, and the Cook Islands, to name a few destinations. Mike's passion for travel started at an early age, with his favorite location being Rome. Traveling allowed him to indulge his interest in history by visiting the historic sites he read about. At age 60, he got his basic cruising certificate, bought a small sailboat, the *Lung Ta*, and enjoyed cruising around the Gulf Islands.

Mike was a wealth of knowledge on many subjects. He enjoyed playing chess and taught his children and grandchildren to play, was a member of the Cowichan bridge and wine clubs for many years, and made many friends throughout his life. Mike will be deeply missed.

We would like to thank his team from the BC Cancer Agency and palliative care, including the home care team from Island Health, Drs Bacsu, Vergidis, Murchison, Wade, and Gustafson-Vickers, for their exceptional care, empathy, and support during his illness.

In lieu of flowers, donations can be made to the BC Cancer Agency or the Victoria Hospice.

A celebration of life was held on 7 May 2023 at the Monterey Recreation Centre in Oak Bay.

—Chris Scott-Kerr  
Burnaby



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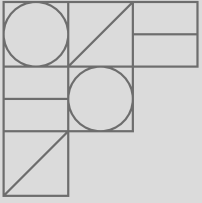
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