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Effectiveness and accessibility of virtual Cognitive Behavioural Therapy Skills Group medical visits during COVID-19

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When roles are reversed: Perspectives from the physician as patient. Dr Topic believes that we can enhance patient care through empathy and compassion; our profession does not make us immune to the human experience that comes with being sick. Article begins on page 394.

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Environmental impact
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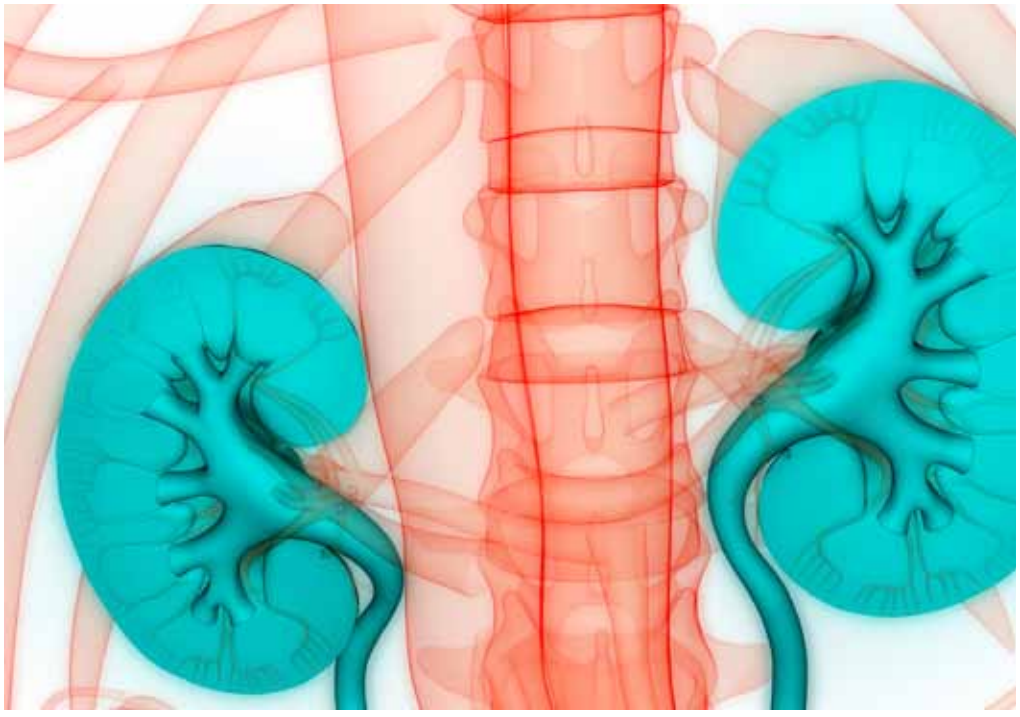
ON THE COVER
Virtual mental health group sessions during the first year of the pandemic showed improved accessibility, equity, and acceptability compared with previous in-person visits. Article begins on page 383.



A new era of kidney care: Clinical considerations and future use of sodium-glucose cotransporter-2 inhibitors in the context of kidney care. Article begins on page 390.

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.

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Flow as the secret to happiness

One of the most meaningful things I have learned about finding happiness is the value of "flow." Perhaps you have already heard of flow. It is a term coined by Dr Mihaly Csikszentmihalyi (pronounced mee-high cheek-sent-me-high-ee) and clearly, I am late to the game.[1] Dr Csikszentmihalyi's TED Talk has over 7 million views, and his breakout book, *Flow: The Psychology of Optimal Experience*, is a bestseller endorsed by a myriad of high performers and world leaders.[1,2]

Flow experiences are those during which one's sense of time seems to vanish and "effortless actions" create bursts of creative energy, leading to some of the best moments in life.[3] Flow can arise only when one has a clear set of goals and access to immediate feedback. A person's skills must be almost equal to the action, such that the task remains challenging enough to demand undivided attention. If the goal is too easy, one gets bored; if it is too hard, one experiences frustration, which leads to anxiety. Writing about Dr Csikszentmihalyi in 1986, a *Washington Post* reporter said, "We don't 'go' with that kind of flow. We summon it unconsciously, experience it and feel good as a result of it."[4] Some common activities during which one might experience flow include playing music, computer programming, rock climbing, and surgery. My flow state comes while I'm wake surfing (the watersport where boats make annoyingly gigantic waves for a surfer who does not require a towrope). I love trying new tricks, riding revert or heelside, and just feeling the shape of the water. It's blissful … until I inevitably bail and give my kids something to really laugh about. They have taken to calling my 360 "the banana peel" because that's what it most often resembles.

I was introduced to the concept of flow through a McGill University course I took during the pandemic, called Human Motivation. The professor, Richard Koestner,[5] taught us how autonomous motivation can be either intrinsic or extrinsic. Those who are intrinsically motivated do things consistent with their core values, interests, and personal morals. In contrast, extrinsically motivated people are driven to behave by external sources such as grades, rewards, or the admiration of others.[6] Intrinsic motivation tends to lead to more enjoyable experiences and lasting satisfaction, although it can be diminished by external pressures.

I have reflected on how physicians might cultivate flow, as intrinsic motivation is undoubtedly what drew many of us to medicine in the first place. During my fellowship I recall having frequent flow experiences during surgery. Under the watchful eye of my attending, I got tremendous personal fulfillment from operating; I was helping patients, honing my skills, and enjoying the work. Although I still love my job, flow is understandably harder to come by these days as the most-responsible-physician, concurrently balancing the daily pressures of running a practice while practising medicine.

Dr Csikszentmihalyi found that flow is possible to achieve in almost any job, but it takes a committed effort.

Flow is a means to experiencing what we all really want: happiness. After learning of the concept, intrigue led me down an Internet rabbit hole of neuroscience and motivational psychology. While I fully endorsed the mental health benefits of flow experiences, mine seemed to take a lot of energy. (To my dismay, I learned that you cannot be in flow while watching reruns of *The Office* with a glass of wine in hand.)

Dr Csikszentmihalyi found that flow is possible to achieve in almost any job, but it takes a committed effort.[7] To get into the flow state "on purpose and with purpose," Diane Allen's TED Talk explains how to dissect your own flow experiences and find a flow strategy that you can apply to many facets of your life.[8] Her flow strategy, for example, is harnessing the unity of connecting with others, originally through music, and transferring that to finding unity in daily activities. She reassures us that shutting down your prefrontal cortex and finding flow is not an esoteric concept reserved for the elite; your brain can do it too! If you are creeping toward burnout or feeling under-fulfilled, perhaps it's time to ask yourself, when was the last time I felt truly immersed in something? Therein may lie the secret to happiness. ■

—Caitlin Dunne, MD, FRCSC

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Bean the change

"Congrats on your raise, doc!" I must've appeared baffled as my patient went on . . . "I heard the government is giving family doctors a bunch of money; that should help, hey?"

I sighed, smiled, and explained that it was "complicated." I was too tired to get into the conversation that the approximately $17 000 to $27 000 being given to each BC family doctor wasn't going to stabilize the family medicine crisis. The stabilization funding, which is meant to help clinics stay open from 1 October 2022 until 1 January 2023, is a nice gesture, but it gives our patients the idea that we can be pacified with money. The fair distribution of these funds will be an interesting and unenviable process for clinic directors. Physicians within a clinic have different styles of practice, see different volumes of patients, and work a varying number of hours to provide quality patient care. The clinics will also take a well-deserved percentage of the funding for overhead.

I joined the Supporting Team Excellence with Patients Society (STEPS) community health centre (CHC)[1,2] in September 2021, and my overall experience has been very positive. I went from being a solo family practitioner to a valued member in a fee-for-service team-based care model. My patients have access to a wonderful team, including a nurse, a counselor, a social worker, a dietitian, a respiratory therapist, an occupational therapist, a pharmacist, medical office assistants, and urgent care physicians. My laptop is no longer an accessory appendage, and there haven't been many sightings of me peeking over my Lenovo at family gatherings. My physical and mental well-being directly correlate with the care that I provide to my patients, and the CHC rescued me when I was on the brink of burning out. The connection I have with my team calls on me to reciprocate when others need support, ensuring the greater well-being and health of our team.

Although the CHC model is working well and remains a key strategy for stabilizing primary care in BC, the issue remains that I have 2200 patients, many of whom are very complex. These patients wait up to 8 weeks for a regular appointment. While urgent-care appointments are a great concept, they are taken up quickly as we no longer have any walk-in clinics in Kamloops. STEPS is working on a CHC and urgent primary care clinic combination proposal to increase access to urgent care, which cannot come fast enough. Timely access to care is of the utmost importance to me, and to my patients.

There are physician payment proposals for CHCs offering $265 000 to $295 000 annually with $75 000 for overhead for 1680 hours worked. The $75 000 offered won't cover most physicians' overhead, which is on average 35.5% of gross earnings. A regular patient visit with a family physician, after paying overhead, amounts to approximately $20/visit, pre-tax. The government is recognizing that we need payment models that address rising business costs as well as the complexities of providing longitudinal care to our patients.

If I optimized my patient panel, approximately 1000 of my patients would be orphaned.

In many of the proposed group contracts, a full-time equivalent physician is expected to manage a panel of 1250 attached patients of average complexity.[3] If I optimized my patient panel, approximately 1000 of my patients would be orphaned. This won't happen because I, like most family physicians, have a moral and ethical obligation to my patients. Ideally, I need another doctor to take over some of my patients so I can cope with the ongoing burden of charting, complex billing, reports, meetings, forms, forms, and more forms! The real issue is that we need more family physicians. Currently in the Thompson Health Region, approximately 39% of our population is not attached to a primary care provider.

Doctors of BC has posted results from the 2021 benchmark member engagement survey,[4] which had a response rate of 12%. The survey brought forth key issues affecting primary care medicine and realization of the crisis we are in. Our Doctors of BC president, Dr Ramneek Dosanjh, and her team are making a genuine effort to communicate with primary care providers. She will be meeting with our STEPS CHC via Zoom and will be collaborating, in person, with the medical community in Kamloops.

The family medicine crisis has received significant media attention, and family physicians are finally starting to be recognized as specialists of primary care. We must continue to advocate for equality and collaborate to maintain our diversity and autonomy.

One of my colleagues gave me the book *The Coffee Bean*,[5] which offers a simple lesson in creating positive change. The authors liken a stressful environment to a pot of hot water, hypothesizing that we can soften and weaken in it like a carrot, harden like an egg, or transform the environment like a coffee bean. Like the coffee bean, let's all be active participants in the positive transformation we are seeking in our medical system. ■

—Jeevyn K. Chahal, MD

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Power

In my role as president, I have had the privilege of meeting and engaging with members across the province, and it has given me the unique opportunity to lean into crucial conversations and necessary dialogue. I recognize the significant contributions you all continue to make within a crumbling system. I recognize that many of us share the same concerns about inequities, scarcity of resources, and uncertainty in an ever-changing health care landscape. And I recognize that a common theme in all the discussions I have had during my term has been about power—the distribution of it, who holds it, and how it influences our day-to-day decision-making on an individual and systemic level.

Power can directly and inadvertently affect all of us in medicine, health care, and society. It can challenge our personal beliefs, our interpersonal relationships, and our participation in the world. And the abuse of power ultimately hinders effective and meaningful progress. If there was ever a question about its relevance, ask those who feel powerless in the system or feel the glaring inequities in gender, race, and access. Ask someone who is homeless, an Indigenous person, an immigrant or refugee, a person living with addiction, or a patient living in a remote geographic location. Many of you have voiced concerns about the power dynamics that exist rampantly throughout health care, and most of us can agree there is an unacceptable status quo in the distribution of that power, whether in respect to equity and cultural safety, within our training and our institutions, or from health care administration to delivery and the hierarchical system. Power has perpetuated long-standing colonialism, racism, ableism, capitalism, and misogyny, all of which have devastating impacts on health care and humanity.

We as a profession are familiar with the impacts of power. On the day we are granted our medical licence, there is an immediate transference of power from patient to doctor. Patients look up to us, depend on us, and trust us to advocate on their behalf. They know it is our expertise and intervention that will significantly influence or alter their lives. That is a power unlike any other, and it comes with a responsibility to do the right thing, always. Yet in our operational and systemic interactions there are times when we face an abuse of power—an unnecessary top-down approach from administrators or decision-makers. These circumstances perpetuate the inability to evolve and transform health care in a meaningful way. If there was a devolution of the anchors of power within the system, we could create a more promising reality.

The power of our voice and how to alter its trajectory belong solely to us. Ultimately, the greatest power we have as individuals lies within our belief systems and in the community we surround ourselves with—two things that allow us to challenge the status quo and make a collective impact. The largest inequity that may fuel our anguish could be the perception of power, and the only way for us to achieve true equity is by advocating for the dissolution of power and the decolonization of our system. But how do we do this? What is the first step for us to take?

When I think about the privilege of practising medicine alongside my colleagues, about supporting physician outreach across the province, and about the cultural safety and humility work, I am reminded of the importance of community. And I truly believe that if we rely on a sense of community we will have the ability—and the power—to challenge the existing culture. Understanding one another at our deepest levels, acknowledging our roots, and respecting what we each contribute to medicine are imperative to our evolution as a profession and to the evolution of our health care system overall. When we emphasize the importance of building community while respecting our differences, we enable our unique individuality while honoring our collective responsibility to serve health and humanity.

Harnessing our shared experiences and grievances about power imbalances will lead us to disrupt the existing dynamics if we choose to do it together.

As renowned theorist and activist bell hooks wrote, "Beloved community is formed not by the eradication of difference but by its affirmation, by each of us claiming the identities and cultural legacies that shape who we are and how we live in the world." Harnessing our shared experiences and grievances about power imbalances will lead us to disrupt the existing dynamics if we choose to do it together. ■

—Ramneek Dosanjh, MD
Doctors of BC President

News

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Book review: *Transformer: The deep chemistry of life and death*

By Dr Nick Lane. W.W. Norton and Company, 2022. ISBN: 978-0-393-65148-5. Hardcover, 400 pages.

When you were a medical student, you were told to sit down, shut up, raise your hand when you wanted to go to the bathroom, and memorize a whole bunch of strange names of carboxylic acids that make up the Krebs cycle. I thought this was a gigantic waste of time and had nothing to do with the practice of medicine.

Dr Nick Lane, a renowned biochemist and one of the best science writers on the planet, has written a book titled *Transformer: The Deep Chemistry of Life and Death*, about the Krebs cycle, which completely changed my mind about the above paragraph. Few publishers would give the go-ahead to a nonfiction book on such a subject, but this writer has the credibility pull it off.

After reading this book, one will understand how this cycle of matter (eponymously named in the 1930s after Sir Hans Adolf Krebs) is a sound explanation for the origin of life, lifespan, and the end of life. You will learn how the whole beautiful process can be understood in terms of physical chemistry, which is a unique sweet spot in the massive space of possible scientific explanations. It is a remarkable story.

The writing is remarkable also. Dr Lane uses interesting recurring analogies, such as comparing a cell to a city from a structural point of view or a Shakespearean sonnet to DNA from an informational point of view, to get his point across. You will learn that this dance between biological structures and biological functions has an underlying chemical explanation as ancient as the Earth itself. The newly named science of metabolomics is outlined in the most illustrative way, which doctors will find useful in talking about disease to patients. It turns out that the Krebs cycle is the primordial controller of DNA, healing, and essentially everything we call life.

Energy from the sun is captured by plants (photosynthesis) and bottled up in molecules (otherwise known as food that is made of carbon, hydrogen, and oxygen, chemically speaking) which we humans then eat. The human Krebs cycle (electron transport chain) then strips out the energy (electrons) from this food and passes it on for cellular respiration. Think of it as taking a food molecule, ripping out the carbon and oxygen to make CO_2 waste, and then ripping out the hydrogen to make H_2O. This is basically taking hydrogen and burning it in oxygen to give us energy to crawl, walk, or run. Dr Lane describes it as "feeding hydrogen to the ravaging beast called oxygen." One can think of the entirety of medicine as tending to faulty human cellular respiration. Dr Lane coherently shows how this small sliver of reality is embedded in a much more general evolutionary history, starting with alkaline vents at the bottom of the ocean and ending up at human consciousness. In between, the author plainly tells the tale of the development of DNA, the fluke of photosynthesis, oxygen in the atmosphere, the one-in-a-gabillion appearance of the eukaryotic cell, multicellular organisms, and animal predation, all grounded in survival of the fittest and death/extinction of the weakest.

The author further explains that life is able to take two gases and turn them into solid matter. Carbon dioxide and hydrogen are quite happy existing as they are, not reacting with anything; however, life lowers the thermodynamic barriers to transforming them and the Krebs cycle is integral to this.

The current thinking is that this started billions of years ago in the alkaline thermal vents at the bottom of the oceans, bubbling out hydrogen gas from a battery (Earth) when the Krebs cycle ran in reverse. When running in reverse, it makes stuff like cell membranes and doesn't burn (oxidize) stuff for energy. This same "making extra unwanted stuff" is pathognomonic of cancer at the end of a patient's life, when the Krebs cycle also runs in reverse. During the life of a patient there is a complicated meshing of the Krebs cycle, sometimes running forward to burn stuff and sometimes backward to make stuff.

After reading this really good book, one will appreciate the famous Harold Morowitz line that "matter cycles and energy flows." I regret not having had this book during medical school. *Transformer* is well worth the read.

—Mark Elliott, MD, FRCPC

Life insurance: Time for a beneficiary designation checkup

When was the last time you reviewed your beneficiary designations? You've no doubt made careful plans to ensure that your loved ones will be taken care of. However, your life circumstances may have changed, and it's important to ensure that your beneficiary designations reflect your current wishes. Here are some considerations to help you with your beneficiary checkup.

Beneficiary basics

A beneficiary is someone you designate to be the recipient of insurance policy proceeds upon your death.

If you name a beneficiary, the proceeds will be paid outside your estate, directly to the beneficiary. Payment will be relatively prompt, minimal paperwork will be required, and the funds will not be subject to probate fees. You may also designate a trust as the beneficiary, but be sure to seek legal and tax advice before pursuing this option.

If you do not name a beneficiary, the proceeds will be paid to your estate. Your estate's executor must apply to validate your will in court and the funds will be subject to probate fees. BC's Probate Fee Act sets out the probate fee structure, which currently approaches approximately 1.4% of the value of an average policy.

Beneficiaries aren't for life insurance alone. Review all insurance policies, accounts, and investment vehicles for which you have designated beneficiaries. Your beneficiary designation is separate for each and supersedes any general directive set out in your will, unless your will specifically identifies the policy in question.

Types of beneficiary designations

Contingent beneficiary

You may wish to designate a primary beneficiary and a contingent beneficiary. The contingent beneficiary would be the recipient of your policy proceeds if the primary beneficiary is deceased. In the tragic case of you and your primary beneficiary dying at the same time, such as in an accident, insurance law deems that your beneficiary is deceased before you and proceeds will be paid directly to your contingent beneficiary. If no contingent beneficiary is named, payment will be made to your estate.

Minor children as beneficiaries

If a child under 18 is designated as your beneficiary, make sure you designate a trustee to receive the funds on the child's behalf. If no trustee is designated, the funds will be paid into the courts and the Public Guardian and Trustee of BC will be involved.

Corporations named as beneficiary

This is a popular strategy since there is a mechanism for corporations to pay life insurance policy proceeds as tax-free capital dividends to shareholders. In addition, corporations are subject to a lower income tax rate so tax efficiencies are gained by paying corporately. Payors must align—the corporation named as beneficiary should also be paying the premiums for the life insurance policy. Speak with your accountant about whether this strategy makes sense for you.

Charity beneficiaries

You may name one or more charities as your beneficiary. Professional tax advice can determine if your charity designation renders your premiums tax-deductible.

Assignments

It is also important to review your life insurance policy to determine if there are any old assignments. In an assignment, the policy proceeds are assigned to a lender as collateral for a loan (often a business or clinic loan). The lender receives the funds to repay the loan before the residual is paid to your beneficiaries. If you change lenders or pay off the loan, it can be easy to forget to remove the original assignment, which can cause delays at death.

To make an appointment for a free insurance consultation with a licensed, noncommissioned Doctors of BC insurance advisor, contact us at insurance@doctorsofbc.ca or by phone at 604 638-7914.

—Erin Connors
Advisory Services Manager
Members' Products and Services, Doctors of BC

Emily Ertel, MD, Adrian W. Bak, MD, FRCPC, Hamish Hwang, MD, FRCSC, FACS

Endoscopic retrograde cholangiopancreatography or cholecystectomy first in patients with suspected choledocholithiasis?

A retrospective cohort study of patients with suspected bile duct stones suggests that up-front cholecystectomy, with selective post-op endoscopic retrograde cholangiopancreatography (ERCP), is a safe and cost-effective alternative to routine ERCP.

ABSTRACT

Background: Guidelines concerning the timing of endoscopic retrograde cholangiopancreatography (ERCP) in relation to cholecystectomy for suspected choledocholithiasis are unclear. While some general surgeons suggest ERCP first (EF) prior to cholecystectomy, others suggest cholecystectomy first (CF), with intraoperative cholangiogram and postoperative ERCP as necessary. The aim of this project was to compare outcomes of patients treated with EF versus CF at the Vernon Jubilee Hospital.

Methods: Over a 3-year period, a cohort of patients with a diagnosis of cholecystitis, cholangitis, or gallstone pancreatitis and suspected choledocholithiasis were studied. Outcomes were compared between two groups: EF versus CF.

Results: During the study period, 205 patients underwent cholecystectomy. Of those, 58 met the inclusion criteria: 37 EF and 21 CF. Those in the CF group had fewer comorbid conditions (1.2 vs 2.2, $P = .014$) and were more likely to have a diagnosis of acute cholecystitis (38% vs 5%, $P = .0015$). Rates of intraoperative complications (CF 0.0% vs EF 10.8%, $P = .12$) and postoperative complications (CF 14.3% vs EF 8.3%, $P = .47$) were similar. Operative time was similar (CF 69.5 minutes vs EF 69.2 minutes, $P = .98$). The hospital length of stay was shorter in the CF group (CF 5.3 days vs EF 7.4 days, $P = .04$). ERCP procedures were avoided in 48% (10/21) of the CF group, and there was a 32% (12/37) rate of nontherapeutic ERCP in the EF group. There were no cases of cystic duct blowout or need for second operation in the CF group.

Conclusions: Up-front cholecystectomy in patients with suspected choledocholithiasis with selective post-op ERCP is a safe and cost-effective alternative to routine ERCP in a community hospital setting.

Dr Ertel is a resident in the Department of Family Medicine at Dalhousie Medical School. Dr Bak is a gastroenterologist at Kelowna General Hospital and a clinical assistant professor in the University of British Columbia Faculty of Medicine. Dr Hwang is a general surgeon at Vernon Jubilee Hospital and a clinical associate professor in the UBC Faculty of Medicine.

This article has been peer reviewed.

Background

Gallstone disease develops in 10% to 15% of Caucasian adults and is the consequence of supersaturation of cholesterol in bile.[1] Risk factors include female sex, age over 40 years, obesity, and rapid weight loss. Cholelithiasis, or gallstones within the gallbladder, is the most common presentation, though 80% of patients are asymptomatic. The risk of developing symptoms is 1.0% to 2.3% per year.[1] The most frequent symptom is biliary colic, classically presenting as postprandial epigastric pain radiating to the back or right shoulder, and is treated by avoidance of lipid-rich foods or elective cholecystectomy. Cholelithiasis can also cause inflammation of the gallbladder (acute cholecystitis), which is treated with emergency cholecystectomy. Gallstones can also migrate from the gallbladder into the bile duct **[Figure 1]** and cause additional complications, including gallstone pancreatitis when the stones block the pancreatic duct, and cholangitis when bacterial growth accumulates within the bile duct. Common bile duct stones are also referred to as choledocholithiasis.[1-3] Between 5% and 15% of patients with symptomatic cholelithiasis harbor common bile duct stones.[1]

Acute cholecystitis, gallstone pancreatitis, and cholangitis are common reasons for admission to hospital.[1] Cholecystectomy for acute cholecystitis is the second most common emergency general surgery operation after appendectomy. Sometimes these patients present with signs of common bile duct stones with elevated serum bilirubin, elevated liver function

tests, or imaging showing common bile duct dilation.[1] This creates a dilemma whether to clear the common bile duct stones first or perform cholecystectomy first and deal with the common bile duct stones afterward.[1-4]

Patients with a low probability of common bile duct stones are generally recommended to have cholecystectomy, with or without an intraoperative cholangiogram, with selective postoperative endoscopic retrograde cholangiopancreatography (ERCP); those with a high probability of common bile duct stones are recommended to have ERCP first, followed by cholecystectomy.[1-4] Magnetic resonance cholangiopancreatography or endoscopic ultrasound can be helpful to confirm the presence or absence of common bile duct stones.[1,3-5]

In some centres, a single-stage approach with cholecystectomy, intraoperative cholangiogram, and intraoperative ERCP is being offered.[6] In others, laparoscopic common bile duct exploration[1,7,8] or laparoscopic transcystic sphincteroplasty[9] as single-stage options are also being offered. These options are contingent on availability of specialized equipment and technical expertise.

In smaller centres, laparoscopic common bile duct exploration and even ERCP may not be readily available; thus, patients must be transferred to another site. There is growing evidence that undertaking cholecystectomy up front, followed by selective ERCP in patients with suspected common bile duct stones, not only is safe and effective but also reduces hospital length of stay, costs, and need for ERCP[5,10] or endoscopic ultrasound.[5]

Resistance to performing up-front cholecystectomy includes the concern that post-op ERCP may fail to extract the stones and may require a subsequent second operation, though improvements in technology and ERCP techniques, including lithotripsy and choledochoscopy, have made this a rare occurrence; the success rate of postoperative ERCP in clearing stones is 97% to 100%.[1,2] Another concern is that retained stones may increase bile duct pressure and cause a "blowout" of the cystic duct, though this has not been supported by evidence. ERCP requires hospital resources and carries a 6.85% risk of complications, including pancreatitis (3.47%), perforation (0.60%), and ERCP-related death (0.33%).[11] Short of offering a one-stage procedure, up-front cholecystectomy may be a preferable approach if it is safe and effective and reduces the overall need for ERCP.

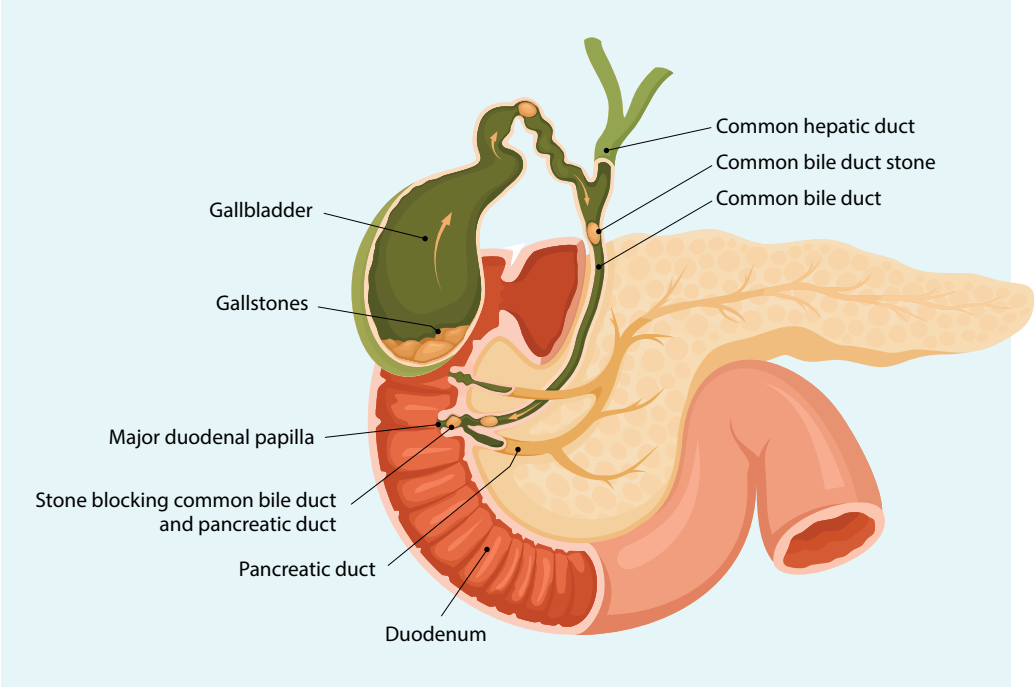

FIGURE 1. Biliary anatomy.

There is growing evidence that undertaking cholecystectomy up front . . . not only is safe and effective but also reduces hospital length of stay, costs, and need for ERCP or endoscopic ultrasound.

Vernon Jubilee Hospital is a regional community hospital in southern British Columbia. It has 196 beds and serves a catchment of more than 125 000 people. Patients require transfer to Kelowna General Hospital (50 km away) for ERCP, which leads to delays in treatment and longer hospital stays. For this reason, some general surgeons at Vernon Jubilee Hospital have adopted an up-front cholecystectomy approach for patients with suspected common bile duct stones. Anecdotally, this approach has not led to increased complications but has reduced hospital stays and the need for ERCP. The objective of this quality improvement project was to compare outcomes of patients with suspected common bile duct stones treated at Vernon Jubilee Hospital by ERCP followed by cholecystectomy versus up-front cholecystectomy with intraoperative cholangiogram and selective post-op ERCP to confirm or refute these anecdotal impressions.

Methods

We conducted a retrospective cohort study of adult patients who underwent a cholecystectomy at Vernon Jubilee Hospital in three fiscal years: 2016–2019. Following approval by the Interior Health Research Ethics Board to proceed as a quality improvement project, we identified all patients 18 years or older who had an emergency room visit at Vernon Jubilee Hospital within the previous 6 weeks with a diagnosis of acute cholecystitis, choledocholithiasis, or gallstone pancreatitis, and who underwent cholecystectomy.

TABLE 1. Demographic and clinical characteristics.

	Cholecystectomy first	Endoscopic retrograde cholangiopancreatography first	*P* value
n	21	37	
Patient demographics			
Age (mean)	55.1	63.6	.09
Sex (% female)	43.8	56.3	.26
Comorbidities[†]			
Total number (mean)	1.2	2.2	.01
Hypertension (%)	19.0	45.9	.04
Coronary artery disease (%)	9.52	27.00	.11
Diabetes (%)	4.76	16.20	.20
GERD (%)	9.52	27.00	.43
Hypothyroidism (%)	9.52	27.00	.43
Depression/anxiety (%)	9.52	27.00	.92
Smoking (%)	9.52	27.00	.92
Diverticulosis (%)	9.52	27.00	.92
Benign prostatic hypertrophy (%)	9.52	27.00	.92
Laboratory markers[‡] (mean ± SD)			
Bilirubin	63.5 ± 35.0	54.3 ± 30.0	.07
GGT	365 ± 232	455 ± 320	.46
AST	332 ± 209	372 ± 348	.38
ALT	310 ± 250	329 ± 278	.82
ALP	233 ± 95.3	217 ± 56.7	.82
Lipase	13 600 ± 23 400	21 200 ± 28 500	.43
Preoperative diagnosis (number [%])			
Acute cholecystitis	8 (38.1)	2 (5.4)	.002
Choledocholithiasis	6 (28.6)	18 (48.5)	.14
Gallstone pancreatitis	6 (28.6)	12 (32.4)	.76
Ascending cholangitis	0 (0)	4 (10.8)	.12
Mirizzi syndrome	0 (0)	1 (2.7)	.45

ALP = alkaline phosphatase; ALT = alanine aminotransferase; AST = aspartate aminotransferase; GERD = gastroesophageal reflux disease; GGT = gamma-glutamyl transferase.

TABLE 2. Surgical outcomes.

	Cholecystectomy first	Endoscopic retrograde cholangiopancreatography first	*P* value
n	21	37	
Operative time (minutes)	69.5	69.2	.98
Intraoperative complications	0	4	.12
Postoperative complications	3	3	.48
Mean hospital length of stay (days)	5.29	7.39	.04

We included patients who were candidates for ERCP with suspected choledocholithiasis. We excluded patients with uncomplicated biliary colic, chronic cholecystitis, or acute cholecystitis with normal laboratory investigations and no imaging evidence of common bile duct stones or dilation.

We collected information on patient demographics, laboratory markers, operative characteristics, hospital length of stay, and complications. In patients who underwent ERCP, we also recorded whether sphincterotomy was performed, ERCP-related complications occurred, and duct clearance was successful. Patients who may have had post-op complications that presented to another hospital within the Interior Health Authority were captured because there is a common electronic health record system for the whole region.

In comparing patients who received ERCP first (EF) prior to cholecystectomy versus those who received cholecystectomy first (CF), our primary outcomes were mortality and complication rates. Our secondary outcomes included hospital length of stay, surgical time, and non-therapeutic ERCP.

We used the ANOVA test to compare outcomes between the two groups (EF vs CF). We used the Student's *t* test for continuous variables and the chi-square test for categorical variables.

Results

From April 2016 to March 2019, 205 patients underwent cholecystectomy; 58 patients met the inclusion criteria **[Figure 2]**. Twenty-one patients (36.2%) had CF; 37 (63.8%) had EF.

Age and sex were similar between the two groups **[Table 1]**. The mean age of the cohort was 60.5 years, and 56.9% of the patients were females. Compared with patients in the CF group, those in the EF group had a greater total number of comorbidities, and a greater percentage had hypertension. The remaining comorbidities were similar between the two groups. Lab values on presentation were similar between the two groups. More patients in the CF group than in the EF group were diagnosed with acute cholecystitis on admission.

Operative time was similar between the two groups **[Table 2]**. There were similar rates of

complications in both groups, and there were no deaths in either group.

Among the CF patients, one required conversion to open cholecystectomy due to adhesions, and no patients had intraoperative complications. Three patients had minor post-op complications, including bleeding into the scrotum, hypoxia due to atelectasis, and pain requiring readmission to the emergency department. Of note, none of the CF patients had a post-op cystic duct blowout.

Thirteen of the CF patients (61.9%) had an intraoperative cholangiogram, and 11 (52.4%) had a subsequent ERCP; therefore, ERCP was avoided in 10 patients (47.6%) in this group. Of the 11 patients who required ERCP, 10 had a sphincterotomy and 3 required more than one ERCP to clear all stones, but none required subsequent surgery to do so. There were no notable complications of ERCP in this group.

Four of the EF patients had intraoperative complications during cholecystectomy: colon perforation, bleeding, severe cholecystitis requiring bail-out cholecystostomy tube, and bifascicular block. Three EF patients had the minor post-op complication of readmission to the emergency department with pain and/or nausea.

Of the 37 EF patients, 12 (32%) had a nontherapeutic ERCP with no stones found. All 37 patients had a sphincterotomy. During ERCP, one patient had intraoperative bleeding and four required pancreatic stent placement. One patient had a perforation of the intrahepatic duct, which was treated with stenting. One EF patient had failure to clear the stones and was brought back after cholecystectomy for a subsequent ERCP.

Mean hospital length of stay was 2.1 days shorter for CF patients than for EF patients (P = .04) **[Table 2].**

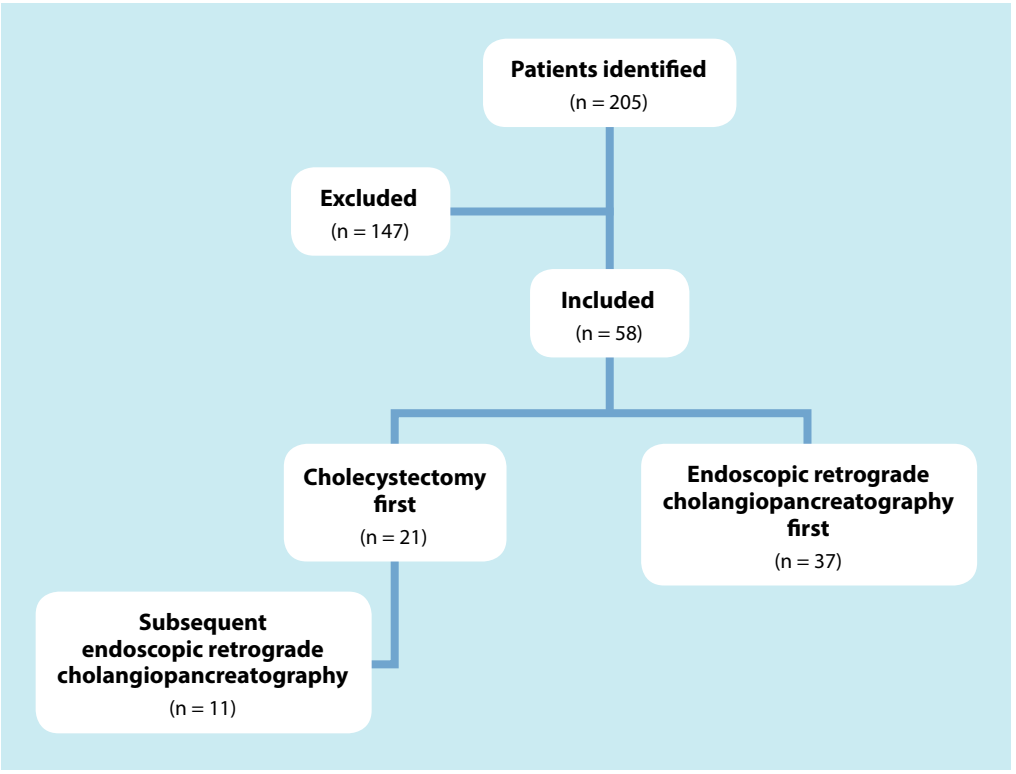

FIGURE 2. Flow chart of patients included in analysis.

Discussion

Pressure on health care resources is increasing, with greater demands for all services year over year. In facilities that have equipment and technical expertise to perform laparoscopic common bile duct exploration or intraoperative ERCP as a one-stage procedure, this is likely the most effective choice, with equivalent outcomes to a two-stage approach, demonstrated reduction in hospital length of stay, and cost savings.[6-9] However, in our midsized community hospital, laparoscopic common bile duct exploration is not available, and patients must be transferred to the nearest tertiary care centre in Kelowna for ERCP, which justifies a more selective approach. In this setting, performing up-front cholecystectomy saved an average of 2.1 days of hospital stay. This could be explained in part by the fact that almost half the patients did not require ERCP at all; they were simply discharged following cholecystectomy. Other randomized controlled studies also found a CF approach shortened hospital length of stay by 2.7 to 3.0 days and reduced the need for ERCP to 24% to 26%.[5,10]

One-third of the patients in the EF group had no stones found on ERCP yet routinely had a sphincterotomy. This is consistent with the literature, which shows a 40% to 70% rate of a negative ERCP.[1] There is growing evidence that there are long-term consequences to sphincterotomy, including recurrent stones and cholangitis;[12] therefore, it is important to reduce the rate of nontherapeutic ERCP as much as possible, not just to reduce health care costs but also to prevent these undesirable sequelae. Performing a triage magnetic resonance cholangiopancreatography is one option,[1,4] though it may increase costs by delaying surgery and increasing hospital length of stay in addition to the cost of the investigation itself. We have shown that, in patients with suspected common bile duct stones, an up-front cholecystectomy with intraoperative cholangiogram and selective postoperative ERCP is a safe and cost-effective alternative without needing routine preoperative magnetic resonance cholangiopancreatography, in alignment with previous research on patients with low risk of common bile duct stones.[2]

Over the 3-year period of our review, there were no instances of post-op cystic duct blowout in patients treated with up-front cholecystectomy for suspected common bile duct stones, even though more than half of those patients required ERCP for common bile duct stone clearance. Post-op bile leak is a known complication, even in patients who have pre-op ERCP.[13] Additionally, no patients in the CF group required a second operation, though some

needed more than one ERCP to clear all the stones, which is consistent with the 97% to 100% stone clearance rate in the literature.[2] One patient in the EF group also needed more than one ERCP. Failure of stone clearance has become increasingly uncommon with improvements in ERCP techniques[1,4] and is no longer a reason to perform routine ERCP in all patients with suspected common bile duct stones.

Study limitations

Limitations of our study include its relatively small size and retrospective design. The CF and EF groups were not equivalent; the EF group had more comorbidities. This may be explained by more patients in the EF group presenting with cholangitis, for which comorbid patients have a higher risk. However, another similar retrospective study that compared CF with EF and excluded patients with cholangitis had similar findings to our study.[14]

Conclusion

Patients in our study who had up-front cholecystectomy for suspected common bile duct stones with selective postoperative ERCP had satisfactory outcomes and a shorter hospital stay. This is a safe and cost-effective alternative that avoids unnecessary ERCP in one-third to half of patients. Further study is needed to determine whether these findings are applicable to other community hospitals or larger centres. ■

Competing interests

None declared.

Up-front cholecystectomy in patients with suspected choledocholithiasis with selective post-op ERCP is a safe and cost-effective alternative to routine ERCP in a community hospital setting.

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Effectiveness and accessibility of virtual Cognitive Behavioural Therapy Skills Group medical visits during COVID-19

Mental health virtual group sessions during the first year of the pandemic showed improved accessibility, equity, and acceptability compared with previous in-person visits and allowed for program expansion across the province.

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This article has been peer reviewed.

ABSTRACT

Background: The COVID-19 pandemic amplified the need for community mental health supports—particularly for people with pre-existing health inequities—and social distancing mandates made in-person mental health groups inaccessible. The pandemic forced the Cognitive Behavioural Therapy Skills Group program to rapidly transition from in-person to virtual group delivery for the first time.

Methods: From March to December 2020, patients with mild to moderate mental health conditions were referred to the virtual groups. Participants completed online self-report measures (Patient Health Questionnaire-8 and Generalized Anxiety Disorder-7) prior to the first session and after the final session and provided measures of satisfaction and confidence with the skills learned using a 5-point Likert scale. Before and after program results were compared using paired *t* tests and Cohen's *d*. A theme analysis of the qualitative data was conducted.

Results: In 2020, the virtual program served 1773 participants through 170 groups. High levels of satisfaction with the virtual platform (4.6/5.0) and helpfulness of the program during the pandemic (4.7/5.0) were noted, and the no-attendance rate was 4.7%. Forty-three percent of participants who had previously completed in-person groups preferred the online modality.

Conclusions: Virtual groups had equivalent effectiveness, safety, and attendance as prior in-person groups but improved accessibility, equity, and acceptability. Balancing competing values of accessibility, group cohesion, and confidentiality pose ongoing challenges. With the success of the online modality, there is increased accessibility to smaller communities and opportunities for collaboration with care providers across BC.

Background

Prior to the COVID-19 pandemic, mental health conditions were the leading cause of disability in Canada,[1] with one in five Canadians experiencing a mental health condition each year, and one in two Canadians affected by the age of 40 years.[2] In British Columbia one in four people experience a mental health condition each year.[3] Family physicians were managing up to 80% of the mental health care needs because it was the only accessible option for most citizens. Specifically, Canadians reported counseling to be their highest mental health care need, though it was the least likely to be met.[3,4]

COVID-19 effects

When the COVID-19 pandemic began in 2020, it added to the pre-existing needs for mental health supports and highlighted the lack of sustainably funded programs.[5]

By the end of 2021, 37% of Canadians and 41% of British Columbians noted deteriorating mental health since the start of the pandemic,[6] which disproportionately affected people who were already experiencing health inequities prior to the pandemic: women, LGBTQIA2S+ people, individuals with likelihood of job loss or inadequate financial resources, newcomers to Canada, racialized communities (especially South Asian, Black, and Filipino people), Indigenous people, people with disabilities, and workers in precarious or low-income employment or living in low-income housing, shelters, or communal housing.[6-10] Youth between the ages of 15 and 24 and parents of children under 18 years of age were also most severely affected.[7] Fifty-six percent of those with a pre-existing mental health condition reported high levels of anxiety, worry, stress, loneliness, sadness, and depression.[6,10]

Anxiety became the number one reason for visits to family physicians, increasing by 34% during the pandemic; in at least one region, anxiety and depression accounted for 91% of all virtual visits.[11]

Transition to virtual care

Public health restrictions put in-person mental health services on hold. While virtual technologies had been used sparsely prior to the pandemic,[12] programs and clinicians across the province quickly moved to virtual care, many for the first time.

Virtual therapy can be effective for symptom reduction, is cost-effective,[13] and allows for satisfactory care.[12] However, care providers have had concerns about adapting to new technology, the availability of fee codes, and a lack of effectiveness, data security, and coverage through insurance.[14]

Cognitive Behavioural Therapy Skills Groups

In 2015, a group of psychiatrists and family physicians based in Victoria, BC, developed and implemented Cognitive Behavioural Therapy (CBT) Skills Group medical visits to address aspects of the mental health crisis and provide care that is timely, destigmatizing, accessible, equitable, and evidence based.[15]

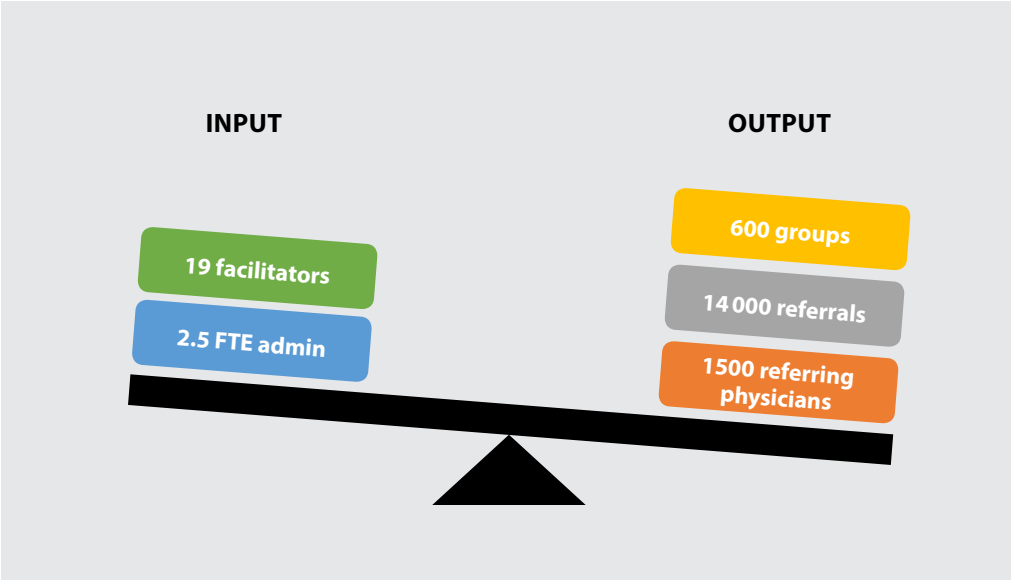

FIGURE 1. Sustainable administrative structure indicates input and output between 2015 and 2020 for Victoria and Vancouver Cognitive Behavioural Therapy Skills Groups.
FTE = full-time equivalent.

Between 2015 and 2020, the program received 14 000 referrals from family physicians and served more than 9000 patients by developing a sustainable administrative structure **[Figure 1]**. Continual evaluation of the in-person program showed consistent results over time, with a mean trend toward symptom improvement for both anxiety and depression. Qualitative themes highlighted patients' experiences of reduced mental health stigma and of feeling better equipped to manage mental health symptoms and feeling less alone.[15]

After the pilot, the program was extended from Victoria to Vancouver, Nanaimo, and Salt Spring Island. Many additional communities in BC requested access to the program, yet geographic barriers were a major obstacle to training family physicians from more distant communities.

Adaptation to the COVID-19 pandemic

When the pandemic began in 2020, 14 in-person groups involving approximately 210 patients were put on hold. Doctors of BC announced that MSP fee codes for all appointments, including CBT Skills Group medical visits, could be used for virtual care. Thus enabled, physician facilitators equipped themselves with Zoom for Healthcare accounts provided by the Provincial Health Services Authority and increased their technical capacities. Patient consent forms were modified to include virtual care security considerations, and the confidentiality agreement was modified to highlight new safeguards necessitated by remotely delivered groups. An online survey tool (Checkbox) was purchased to collect symptom questionnaires and anonymized evaluations.

Virtual groups were offered within 1 week of in-person groups being canceled, and within 2 months, physicians were providing the service for approximately 510 patients. Facilitators paid particular attention to promoting a culture of psychological safety within online groups. In the past, patients had frequently reported that the most transformative aspects of their experience were their interaction with other participants and the sense of universality and destigmatization that cultivated. To preserve the feeling of being "in the room" with each other, participants were asked to be on camera throughout the sessions unless this interfered with accessibility. This promoted a sense of group belonging and provided reassurance about the confidentiality of the space from which each person was joining. Participants were reminded to wear

headphones if there was any chance of someone in their environment overhearing what others were sharing. The group structure was altered to allow for more use of breakout rooms for participant interaction, and participants were made aware of breakout room functions to promote a sense of safety and control. The minimum size of breakout rooms was set at three.

Serendipitously, as the virtual model was established, the regional programs also completed a planned amalgamation, with administration for all being coordinated by the non-profit CBT Skills Groups Society of Victoria. Unconstrained by regional mandates and equipped with a virtual service, the physicians began to invite family physicians from across BC to refer their adult patients.

We examine the experience of participants in virtual groups and compare it with previously gathered data from in-person groups to explore accessibility, effectiveness, safety, and acceptability of the virtual adaptation.

Methods

Patient population

All patients were referred for virtual groups from March to December 2020. Patients were selected by referring primary care providers in their communities and had diagnoses of mild to moderate mental health conditions. Patients may have been from any BC community, but most were in Vancouver and on Vancouver Island, where the program is well known. This group also included patients who were repeating the course for maintenance treatment or to manage relapse in symptoms.

Exclusion criteria included those with severe depression, active risk of harm to self or others, cognitive impairment, impairing level of substance use, personality disorder that might interfere with group process, and active psychosis, mania, posttraumatic stress disorder, or dissociative symptoms.

Measurement

Virtual care participants completed online self-report measures prior to session 1 (Patient Health Questionnaire-8 [PHQ-8] and the Generalized Anxiety Disorder-7 [GAD-7]). The PHQ-8 scores all *Diagnostic and Statistical Manual of Mental Disorders* criteria for depression from 0 to 3, omitting the final question on suicidal ideation, and is commonly used in self-report studies. The original validation studies for the PHQ showed identical thresholds for the scoring of depression severity in both PHQ-8 and PHQ-9.[16] The GAD-7 scores symptoms of generalized anxiety from 0 to 3 and has high internal reliability and validity.[17] After the final session, all participants received an evaluation to repeat the symptom measures. They also provided measures of satisfaction and confidence with the skills they learned using a 5-point Likert scale and gave qualitative feedback. The Arecci tool determined the project as quality improvement and involving minimal risk, thus not requiring further ethics review or consultation.[18]

Data analysis

All participant responses were converted into nonnominal data. Results from PHQ-8 and GAD-7 completed by participants before and after the program were compared using paired *t* tests and Cohen's *d*. Demographic data were gathered based on referrals and participant data. Retention rates were obtained, with "full attendance" defined as attendance for 6 to 8 sessions, "partial attendance" as attendance for 1 to 5 sessions, and "no attendance" when patients attended 0 sessions. Retention rates were analyzed only for Victoria participants because data for Vancouver participants were not obtained for 2015–2019. Trends noted in the in-person and virtual models were compared.

A theme analysis of the qualitative data was completed. Data from five qualitative questions were reviewed. Codes were created to identify preliminary themes in the data, which covered general experience with the group format, as well as specific comments about the pandemic, etiquette, accessibility of and comfort with the virtual platform, sense of connection to others, including facilitators, and concerns about privacy. Using these codes, data were summarized to highlight themes.

Results

The program had 3372 referrals from 658 primary care providers in 2020. For the pandemic portion, between March and December 2020, 1773 participants engaged in 170 groups run by 19 facilitators based out of Victoria and Vancouver. The program received an annual increase in referrals from 2015 to 2019 but slightly fewer referrals in 2020 compared with 2019, and more groups were offered each year **[Figures 2 to 4]**.

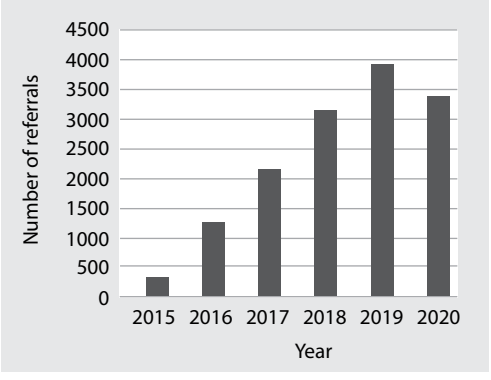

FIGURE 2. Number of referrals per year for in-person (2015–2019) and virtual groups (2020).

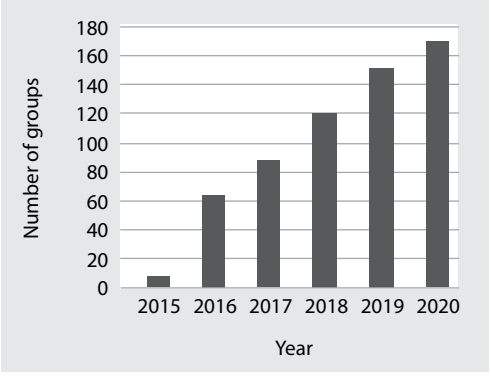

FIGURE 3. Number of groups organized per year for in-person (2015–2019) and virtual groups (2020).

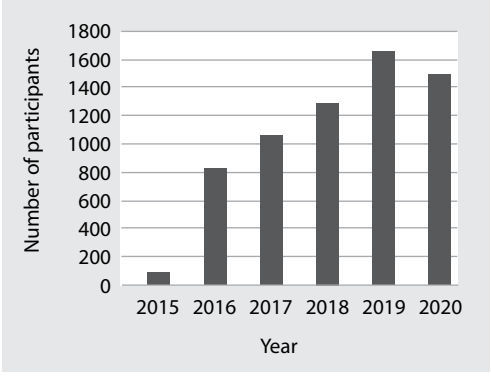

FIGURE 4. Number of participants per year for in-person (2015–2019) and virtual groups (2020).

Most patients were female (70.1%), and the average age of all patients was 41 years (range 19 to 78 years). Forty-one percent of patients (n = 458/1116) had done the course in person before and were repeating it online. Retention rates of Victoria participants were generally similar across years; in 2020, 73.6% of participants (n = 1064/1446) had full attendance, 21.7% (n = 314) had partial attendance, and 4.7% (n = 68) did not attend any sessions **[Figure 5]**.

FIGURE 5. Retention rates per year for in-person (2015–2019) and virtual (2020) groups.

Partially completed = 1–5 sessions attended;
Completed = 6–8 sessions attended.
Data for Victoria only.

Note that the y-axis in this figure has been corrected from a fraction, as it appears in the print version of this article, to a percentage.

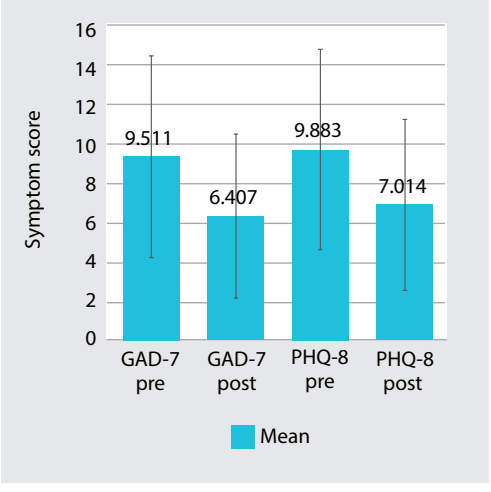

FIGURE 6. Trends in symptom scores measured by the Generalized Anxiety Disorder-7 (GAD-7) and Patient Health Questionnaire-8 (PHQ-8) score before (pre) and after (post) the 8-week Cognitive Behavioural Therapy Skills Group training program.
n = 615.

Post-group evaluations were completed by 49.6% of patients in Victoria and 45.8% in Vancouver (n = 1116). Results of *t* tests showed a decrease of 3.10 points on GAD-7 ($P < .01$, Cohen's *d* effect size = 0.722, n = 615) and 2.87 on PHQ-8 ($P < .001$, Cohen's *d* effect size = 0.670, n = 615) **[Figure 6]**. All improvements were statistically and clinically significant.

On a 5-point Likert scale, participants rated satisfaction with the virtual experience at an average of 4.6, satisfaction with the course itself at 4.5, and overall helpfulness of the program in the context of the pandemic at 4.7. Further Likert analyses suggested that most participants reported confidence in managing their mental health better and were satisfied with the administrative support for the virtual groups **[Figures 7 to 9]**.

Modality preference was assessed for those who had previously participated in in-person groups. Of those 458 repeat participants, 43% preferred the online format, 38% preferred in-person groups, and 19% had no preference.

Virtual groups were offered to all patients who were referred to the program every quarter, so each patient was free to choose a group, with a maximum wait time of 3 months.

Effectiveness

Themes from qualitative feedback centred on the usefulness of skills to manage difficult thoughts and feelings. Participants reported being more aware of emotional experiences and values and felt more equipped and empowered to respond in ways that were aligned with their values. They reported that weekly sessions were helpful in maintaining ongoing accountability and mental health checks. They developed a sense of common humanity and were able to relate to other participants' successes and challenges. The groups helped mitigate the isolation from the pandemic and promoted connections. Many participants reported that others were respectful and considerate during sessions.

Accessibility

Patients appreciated the convenience of attending from a personal space that felt safer, more comfortable, and less demanding of time and money in terms of travel and parking compared with in-person groups. The virtual platform was especially helpful for participants living outside of large centres, those with employment and child care responsibilities, and persons with disabilities. It also mitigated concerns about exposure during a pandemic.

Acceptability and safety

Patients appreciated breakout rooms and online teaching tools. Many benefited from technical support.

Participants also noted that it was more difficult to feel connected, particularly without the "hallway conversations" before and after sessions. Some reported that 90 minutes in front of a screen was tiring. Some expressed worry about privacy, such as family members in the home overhearing or another participant recording the session. They also expressed anxiety about maintaining Zoom etiquette and the effort or disruption of unmuting and contributing to the group. Other technical concerns included lower quality Internet connections affecting some participants' overall experience of the group.

Some participants felt that the sign-up process for the group was cumbersome. They felt that either too many emails were sent throughout the process or not enough reminders were sent. They expressed concerns about the delivery and cost of the hard copy of the skills manual. Feedback about Zoom orientations was mixed: some felt it was helpful; others found it to be redundant.

Feedback also focused on a desire for more interactivity. The participants asked for an interactive online workbook, increased number of sessions per series to reduce the amount of content per session, and pregroup and postgroup gathering options or online platforms for discussions and homework reminders. They asked for more interaction, more breaks, and more question-and-answer time at the end of the sessions. They suggested adding booster sessions and follow-up check-ins 1 to 6 months after their series.

Discussion

The CBT Skills Group program transitioned rapidly to virtual group delivery during the pandemic. When data for the virtual groups were compared with previously gathered results from the in-person groups,[15] they suggested

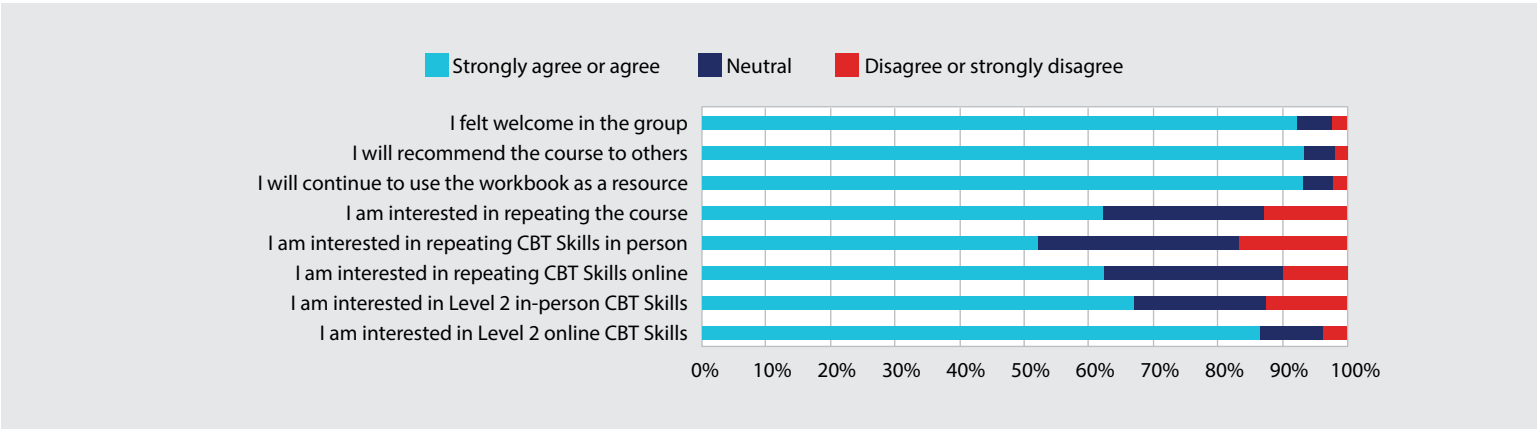

FIGURE 7. Participant experience with the Cognitive Behavioural Therapy (CBT) Skills Group in 2020 (virtual).

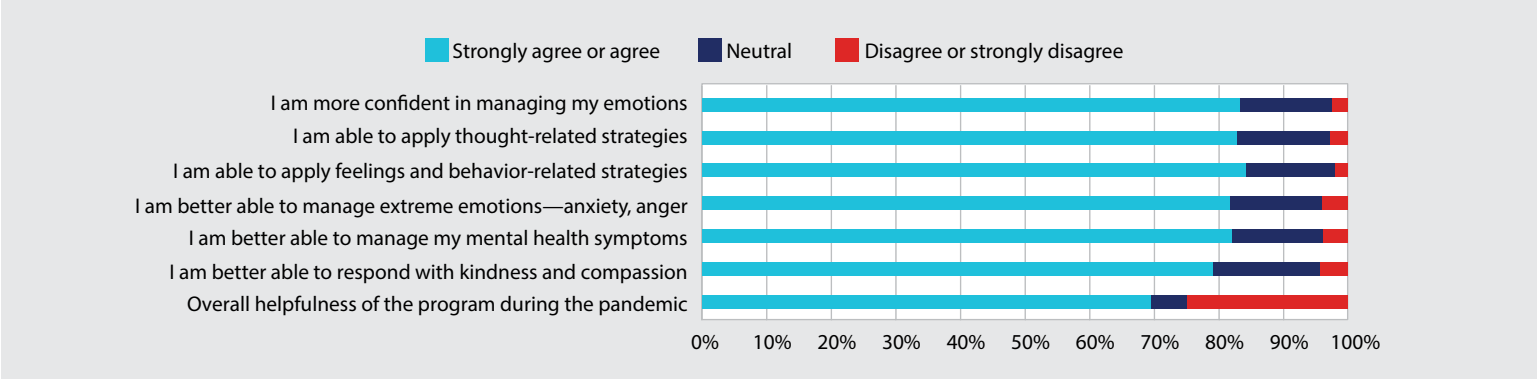

FIGURE 8. Participant confidence with self-management skills in 2020 (virtual group).

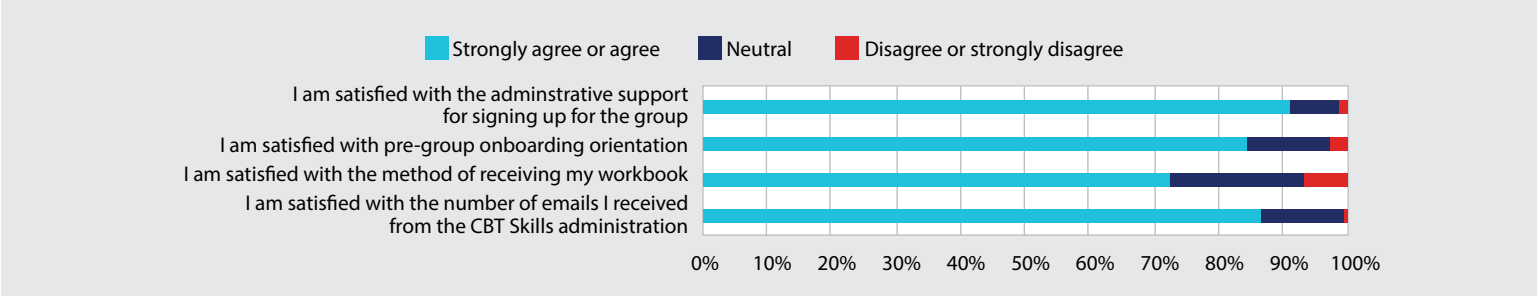

FIGURE 9. Participant experience with administrative support and the Cognitive Behavioural Therapy (CBT) Skills Group program in 2020 (virtual).

that both delivery formats had equivalent effectiveness, safety, and attendance, but the virtual groups had improved accessibility, equitability, and acceptability. Self-reports completed before and after the 8-week virtual group program showed symptom improvement trends comparable with those of the in-person group program.[15] These findings establish a trend but cannot be generalized more widely to show causation because they are based on local quality improvement data with no randomization or comparator arm.

A large contingent of patients (41%) repeated the CBT Skills Group program, likely due to promotion of the program to previous participants at the beginning of the pandemic, when fewer referrals from elsewhere were being made. In addition, patients may have recognized that they needed more help during the pandemic and had easy access to a program that would allow them to maintain their mental health while dealing with new stressors. This could explain why the mean symptom severity at entry for both PHQ-8 and GAD-7 was

lower than in previous analyses.[15] It also highlights the need for maintenance treatment, as it has been shown to reduce the risk of relapse by 32% with delivery of CBT during remission.[19]

Despite concerns about the therapeutic environment of an online group, satisfaction with the virtual format of the program was high and in keeping with the in-person ratings.[15] High levels of satisfaction with the helpfulness of the group and the content during the pandemic were noted.

Challenges

As the virtual program expands geographically, there are conflicts that reflect competing values. For example, the requirement that participants have a webcam on at all times to enhance group cohesion and provide reassurance of privacy and confidentiality may limit accessibility. Some participants shared that they value the hard copy of the workbook and found it difficult to use an online book in concert with an online group; however, the costs of printing and mailing the workbook is borne by patients who elect for a hard copy.

The program has prioritized accessibility by relying on referring clinicians to adequately screen and orient participants rather than having diagnostic and/or orientation sessions that might become bottlenecks. This necessitates that primary care clinicians are equipped with inclusion and exclusion criteria and a sense of who is well suited. The program is attempting to increase this awareness through information on the referral form and the website, direct feedback about referrals, and targeted information through Divisions of Family Practice. The program has received approximately 22 000 referrals to date and has served 12 000 participants, which suggests that referring physicians are selecting people who are likely to sign up and continue with the program. It is unclear whether the remaining 10 000 who chose to not sign up for a group are waiting for a better time to participate or are not suitable candidates for the program; this requires further assessment to optimize the current delivery model.

A related challenge is that the success of the program has been demonstrated only with those who have mild to moderate conditions. If those with higher morbidity and acuity are referred, there are unknowns and potential risks for both individuals and group dynamics. For such individuals, the fast-paced classroom atmosphere may be invalidating and/or demoralizing if they are attempting to cope with crises, intense emotions, or severe symptoms. Facilitators have limited capacity to respond to significant emotional dysregulation, expressions of suicidality or self-harm, or significant interpersonal challenges that may arise, and this ability is even more limited in the virtual setting. The program is engaging in ongoing outcome evaluation to track potential involvement of those with higher acuity or morbidity and elucidate the extent to which these hypothetical risks are realized.

Group therapy has been at least equal to individual psychotherapy in its power to provide benefit and enhance efficient use of mental health resources.

Benefits

Group therapy has been at least equal to individual psychotherapy in its power to provide benefit and enhance efficient use of mental health resources.[20] Connection with other members of the group capitalizes on therapeutic factors that are unique to group psychotherapy, such as universality of experience, altruism, and imitative behavior.[20] Groups also reduce stigma and isolation, which may be particularly important during the pandemic.

Virtual groups enhance accessibility for participants and family physicians from remote and smaller communities. These groups offer needed support for referring family physicians, who are often left managing patients on their own, and provide streamlined, effective, and timely care for patients. Furthermore, having family physicians deliver the services allows for collaboration and mentorship opportunities between psychiatrists and family physicians, which expands physician knowledge and spurs program innovations.

Next steps

Physician training: In 2021, the Shared Care Committee funded facilitator training for members of the Campbell River and District, Comox Valley, and Rural and Remote Divisions of Family Practice to improve accessibility in anticipation of offering in-person groups in the future.

Other divisions and the Physician Health Program were looking for ways to support their members as physicians themselves began requesting self-management skill training to support their own well-being and that of their patients. The Shared Care Committee responded by forging a partnership between physicians from the CBT Skills Groups Society of Victoria and the UBC Office of Continuing Professional Development to offer similar groups to physician cohorts. For a limited time under this program, physicians from across BC can participate in peer groups free of charge and earn continuing professional development credits.

Program improvements: The CBT Skills Group team has committed to the quality improvement process, with data driving iterative program changes since its creation. Over the past 2 years of the pandemic, quality improvement processes have guided changes in the physician training program to improve equity, diversity, and inclusion, and to serve ongoing aims of accessibility, safety, and equity for BC's diverse population.

Patient experience has been streamlined with Zoom orientation on an as-needed rather than required basis. The online workbook is being improved with downloadable homework sheets so patients can print them for written practice. For those who prefer hard copies of the workbook, costs have been minimized as much as possible by creating local pickup sites in urban areas to avoid shipping costs.

Expansion: Physicians are exploring opportunities to partner with others and scale up the program to meet the specific needs of members of Indigenous communities, people of diverse cultural backgrounds, older adults, LGBTQIA2S+

people, and those coping with specific medical comorbidities. Virtual groups have been so popular that physicians intend to keep offering them, and quality improvement efforts will continue to focus on enhancing the safety and effectiveness of the group experience while also endeavoring to be as accessible as possible.

Conclusions

The CBT Skills Group program successfully transitioned to virtual delivery in 2020, and quality improvement evaluations suggest that virtual groups have equivalent effectiveness, safety, and attendance as the prior in-person groups but improved accessibility, equity, and acceptability. The success of virtual groups allows for training and collaboration with care providers across British Columbia, which will continue to further enhance accessibility, equity, and inclusion in the service of BC's diverse population. ■

Competing interests

Drs Cheek and Burrell are co-founders of the Cognitive Behavioural Therapy Skills Group program and are physician leads for the provincial spread project; sessional funding for this role is provided by the Shared Care Committee. Ms Tomori is compensated by the Shared Care Committee for her work as the project lead for the provincial expansion project. The Shared Care Committee is a joint collaborative committee of the Doctors of BC and the BC Ministry of Health.

Virtual groups have been so popular that physicians intend to keep offering them, and quality improvement efforts will continue to focus on enhancing the safety and effectiveness of the group experience while also endeavoring to be as accessible as possible.

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Sodium-glucose cotransporter-2 inhibitors: A new era of kidney care

This review discusses clinical considerations and future use of sodium-glucose cotransporter-2 inhibitors in the context of kidney care.

Alessandro Cau, BSc (Hons)

ABSTRACT

There is a significant and growing burden of chronic kidney disease in Canada. Sodium-glucose cotransporter-2 inhibitors, a class of glucose-lowering medications originally developed for patients with type 2 diabetes, have been found to be of benefit in modifying both kidney and cardiovascular disease trajectories, irrespective of diabetic status or hemoglobin A1c control. They work by multiple mechanisms, including pleiotropic effects on the kidney and reducing weight, blood pressure, and uric acid, and consistently demonstrate kidney and cardiovascular protection in patients with chronic kidney disease. To address the morbidity and mortality of individuals living with kidney disease, we need to translate this robust clinical trial evidence into clinical practice, a task that will partly fall on primary care physicians, who manage a large proportion of patients with chronic kidney disease. While this process will not be without challenges, uptake of this class of medications will unequivocally change the outcomes for patients living with chronic kidney disease across the entire spectrum of kidney disease for years to come.

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This article has been peer reviewed.

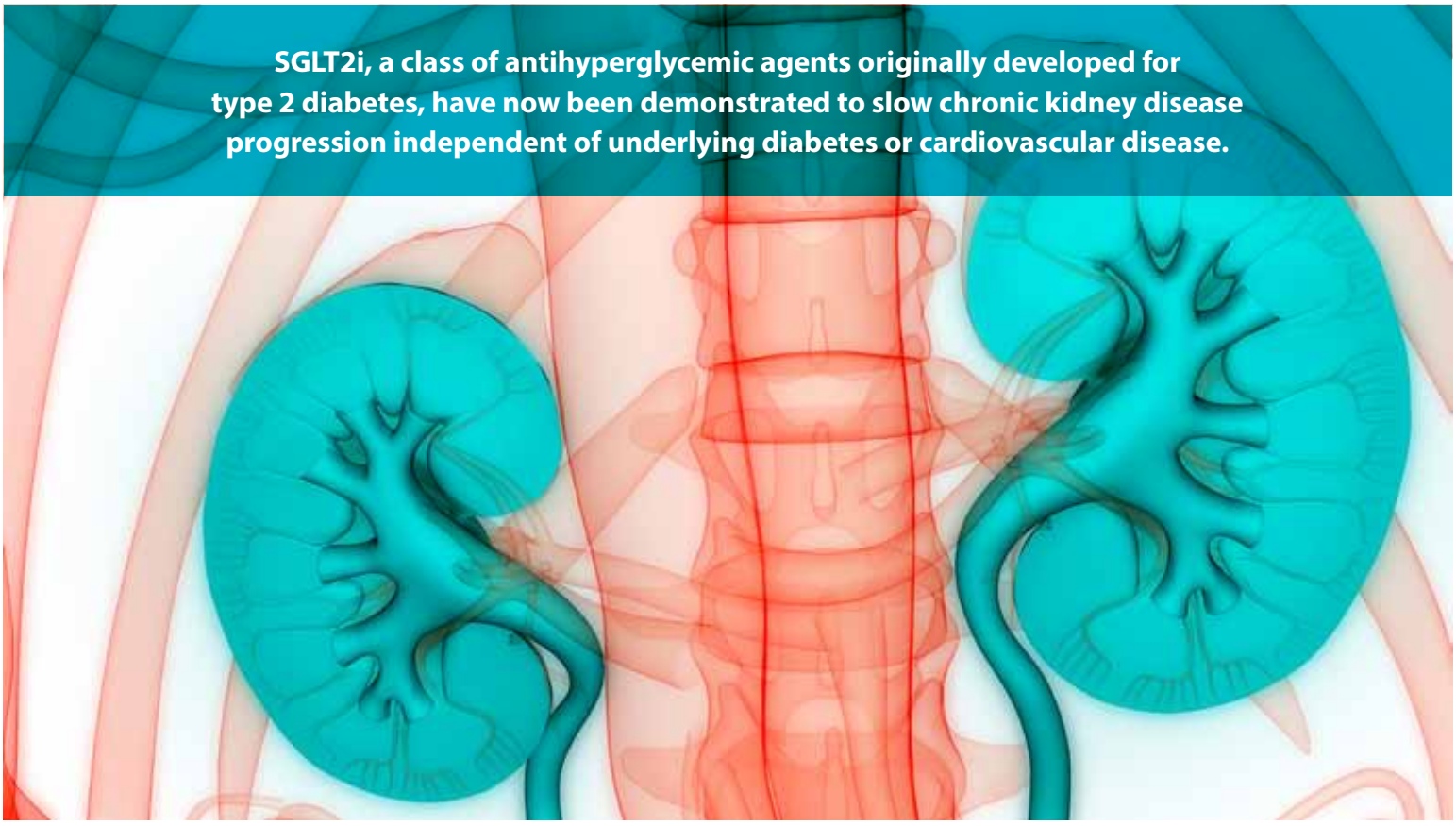
Background

Four million people currently live with chronic kidney disease in Canada, almost half of them under the age of 65.[1] Furthermore, the percentage of patients who progress to end-stage renal disease has grown by 35% since 2009.[1] Until recently, in addition to management of multimorbidities, the standard of care for patients with proteinuric kidney disease has been to initiate renin-angiotensin system inhibitor therapy with an angiotensin-converting enzyme inhibitor or angiotensin receptor blocker. This recommendation was based on considerable evidence from numerous clinical trials demonstrating a reduction in kidney disease progression, but not mortality, in patients who were on a renin-angiotensin system inhibitor, compared with those who were not.[2] However, since the first clinical trial demonstrating the renoprotective effects of renin-angiotensin system blockade in patients with diabetic kidney disease over 20 years ago, there has been a paucity of novel treatments to preserve renal function and modify the disease course of patients with chronic kidney disease,[3] until now. In a 2016 cardiovascular outcome trial of empagliflozin, a sodium-glucose cotransporter-2 inhibitor (SGLT2i), in patients with type 2 diabetes, empagliflozin use was unexpectedly found to be associated with a slower progression of kidney disease.[4] More specifically, in patients with type 2 diabetes, empagliflozin reduced the risk of progression of albuminuria, doubling of serum creatinine, kidney failure, and death.[4] Since then, there have been numerous cardiovascular outcome trials and a handful of recent landmark clinical trials that have convincingly and consistently demonstrated the protective effects of SGLT2i on the kidney.[4-9] Although the benefits of SGLT2i are not unique to the kidney, this review aims to discuss clinical considerations and future use of SGLT2i in the context of kidney care.

Mechanisms of action

SGLT2i, also known as the "gliflozins," were originally developed for patients with type 2 diabetes.[10] They inhibit SGLT2, a low-affinity, high-capacity transport protein found in the proximal convoluted tubule of the nephron that is responsible for reabsorbing 90% of filtered glucose.[11-13] It was initially thought that by inhibiting reuptake of glucose and thus promoting glucosuria, SGLT2i could substantially lower blood glucose in hyperglycemic individuals independently of insulin and other glucose-lowering pathways.[11-13] While effective in those with preserved estimated glomerular filtration rate (eGFR), the glucose-lowering effects of SGLT2i are modest in patients with an eGFR of less than 45 mL/min/1.73 m^2.[12,14] Nonetheless, the protective effects of SGLT2i on the kidney are independent of whether patients have glycemic control or established cardiovascular disease.[15,16]

A full discussion of the proposed physiological mechanisms by which SGLT2i confer renoprotection is beyond the scope of this article. In brief, emerging evidence implicates SGLT2i across a spectrum of distinct renal pathophysiological processes. For instance, in individuals with diabetic kidney disease, SGLT2i may



attenuate nephron hyperfiltration, a known driver of intraglomerular hypertension and glomerular injury, by increasing sodium delivery to the macula densa, thereby restoring tubuloglomerular feedback.[17,18] SGLT2i also reduce cellular sodium and water reabsorption in the proximal tubule and promote paracellular sodium secretion through its actions on the sodium hydrogen exchanger, which is linked to SGLT2 by the membrane-associated protein MAP17.[19] Through reduction of sodium and glucose reabsorption in the proximal tubule, SGLT2i have been shown to shift tissue hypoxia in the cortical segment to the medullary segment of the nephron, which may increase production of erythropoietin, resulting in subsequent increases in red blood cell formation and oxygen-carrying capacity.[7,20] Finally, SGLT2i have been shown to attenuate vascular and renal reactive oxygen species, inflammation, and renal damage.[19]

In addition to these renal-specific benefits of SGLT2i, of which there are many others, the systemic effects of SGLT2i confer renoprotection as well. These include reductions in serum uric acid, body weight, and blood pressure, as well as benefits associated with reduced blood glucose levels and improved insulin sensitivity.[8]

Safety concerns in perspective

As with all medications, there are some safety concerns identified in the clinical trials reported to date. Importantly, these need to be weighed against the benefits of these medications, their true risks, and patient treatability. Although the absolute risk is low, patients on SGLT2i appear to be at increased risk of developing mycotic genital infections, which are typically not severe enough to warrant discontinuing SGLT2i therapy.[5,9,22] There have been suggestions that SGLT2i use may also increase the risk of urinary tract infections, lower limb amputations, and bone fractures, but recent meta-analyses have not supported this.[23,24] Patients with type 2 diabetes on SGLT2i may also be at increased risk of experiencing diabetic ketoacidosis with normal rather than elevated blood glucose levels, known as euglycemic diabetic ketoacidosis, so a higher index of suspicion is required in patients on SGLT2i.[25,26] In some earlier trials, there have also been rare reports of patients on SGLT2i developing necrotizing fasciitis of the perineum, also called Fournier gangrene.[9,27] However, it remains unclear whether gangrene development is associated with SGLT2i use.[28,29]

There have also been suggestions that SGLT2i therapy increases the risk of acute kidney injury in patients, but this has not been supported by evidence from large clinical trials.[4,5,27,30] In fact, a few meta-analyses have demonstrated a reduction in acute kidney injury risk for patients on SGLT2i.[23,24] A modest dip in GFR of approximately 5 mL/min/1.73 m^2 predictably occurs when starting SGLT2i.[4-6] While this may appear concerning, the GFR dip appears to be protective in the long term for patients with and without diabetic kidney disease.[5,6,31-33] However, as with other medications, such as renin-angiotensin system inhibitors and antihyperglycemic agents, it may be prudent to stop SGLT2i when acutely ill or hospitalized to reduce the risk of volume depletion.

SGLT2i are not currently recommended for patients with type 1 diabetes, patients who are pregnant or breastfeeding, patients with bilateral renal artery stenosis, and patients with severe liver disease.[21] Currently, they should also not be started in patients with an eGFR of under 25 mL/min/1.73 m^2, but a number of clinical trials that are examining starting these medications at a lower eGFR were being conducted at the time this article was written. Similarly, SGLT2i are not recommended for kidney transplant patients; however, there are a handful of published case series that have reported good effect of these medications on this patient population, and clinical trials are being planned to investigate this further.

Recommended guidelines for clinical use

The Kidney Disease: Improving Global Outcomes (KDIGO) working group and Diabetes Canada recommend that patients with type 2 diabetes, chronic kidney disease, and an eGFR greater than 30 mL/min/1.73 m^2 be treated with an SGLT2i in conjunction with metformin.[34,35] The choice of SGLT2i should consider patient factors such as patient comorbidities and side effect profiles as well as which SGLT2i have documented renal and cardiovascular benefits.[33,34] The KDIGO working group also recommends that once SGLT2i are initiated, they can be safely continued in patients whose eGFR drops below 30 mL/min/1.73 m^2, but as mentioned above, these medications should be withheld during bouts of prolonged fasting, surgeries, or critical medical illness.[34,35] At the time of writing, there are no other local or national guidelines regarding the use of SGLT2i for chronic kidney disease in nondiabetic patients. However, there is reasonable evidence to suggest that at least dapagliflozin is beneficial for chronic kidney disease patients irrespective of diabetic status.[6]

Clinical caveats

According to British Columbia guidelines, referral to nephrology by primary care is typically recommended when patients reach an eGFR of 30 mL/min/1.73 m^2.[36] This implies that, with respect to SGLT2i, primary care professionals will likely be tasked with identifying candidates most likely to benefit from SGLT2 inhibition, initiating SGLT2i therapy, and monitoring patients who are on them. Currently, as others have pointed out, considerable challenges remain in the translation of SGLT2i trial results into clinical practice.[12,21] First, there is likely to be resistance to SGLT2i uptake by medical professionals who are not comfortable managing patients on SGLT2i or who are not familiar with the clinical trial evidence. Therefore, patients who are candidates for SGLT2i therapy may go unrecognized. Second, identification of SGLT2i candidates requires detection of early signs of kidney disease through rigorous screening programs. There may, however, be less ability to implement such programs in rural and remote regions of BC where access to laboratory services and health care providers may be limited. Last, coverage of the cost of medication is a significant barrier for chronic kidney disease patients. In BC, both empagliflozin and dapagliflozin are covered by PharmaCare for patients with type 2 diabetes, but they are available only for patients who have failed two oral therapies.[37] Thus, for patients not meeting these criteria who face financial difficulties, prescribing SGLT2i such as dapagliflozin for chronic kidney disease may not be a suitable option. In the next 10 years, evidence will continue to emerge regarding the efficacy of SGLT2i for patients with chronic kidney disease and how to properly integrate SGLT2i into clinical practice.

SGLT2i may attenuate nephron hyperfiltration, a known driver of intraglomerular hypertension and glomerular injury, by increasing sodium delivery to the macula densa, thereby restoring tubuloglomerular feedback.

Conclusion

SGLT2i, a class of antihyperglycemic agents originally developed for type 2 diabetes, have now been demonstrated to slow chronic kidney disease progression independent of underlying diabetes or cardiovascular disease. The ability to slow progression of chronic kidney disease is of immense value given the large burden of illness that accrues with chronic kidney disease. This class of medications should be withheld during bouts of acute illness, as one holds angiotensin-converting enzyme inhibitors, angiotensin receptor blockers, and other medications to avoid untoward side effects. While there is still much that remains to be discovered about this class of medications, they should arguably be a cornerstone of chronic kidney disease treatment in the current era. We must be conscientious and diligent to ensure that uptake of SGLT2i is robust by increasing education and awareness about these medications, while ensuring that they are accessible to all. Given the socioeconomic disparities in those who develop chronic kidney disease and its impact on earning potential, there is a need to enable equitable access to these medications. Without attention to these important facts, we risk amplifying existing disparities.[38] SGLT2i are an exciting, safe, and effective therapeutic option for individuals with chronic kidney disease and are well poised to transform kidney care for years to come. ■

Competing interests

None declared.

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Considerable challenges remain in the translation of SGLT2i trial results into clinical practice.

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When roles are reversed: Perspectives from the physician as patient

I believe we can enhance patient care through empathy and compassion, and that we must remember that our profession does not make us immune to the human experience that comes with being sick. I hope my experience can help us in our quest for optimal patient care and that by sharing my experience I can help us become more conscientious and holistic physicians.

Delilah Topic, MD, FRCPC

From the time we start our medical training to the moment we embark on our careers as physicians, we are taught about the importance of empathy in patient care. In my experience, this teaching often comes with the assumption that all medical trainees are healthy and without chronic disease. The teaching of empathy is often under the pretense that no medical student, resident, or physician could possibly know what it is like to be a patient. We are taught how to apply population statistics when assessing risk for disease, but rarely is it acknowledged that we could be part of that population. The message seems to be that, as physicians, we are a separate entity, immune from illness and chronic disease.

Living with type 1 diabetes for 29 years, as well as a metabolic bone disorder, I've been on both sides of the health care system for most of my life. However, it was my recent experience as a transplant patient that made me truly aware of the distress, anxiety, and hardship a patient can experience. I have learned that there are certain aspects about being a patient that we, as physicians, cannot fully appreciate until we are on the other side, and that a significant impasse to optimal patient care is the discrepancy between what is important to the patient and what is important to the physician. These can be two very separate matters and can lead to frustration in both the patient and the physician. I have also learned that sometimes, even despite a wonderful and capable care team, a patient can feel unprepared for what is to come.

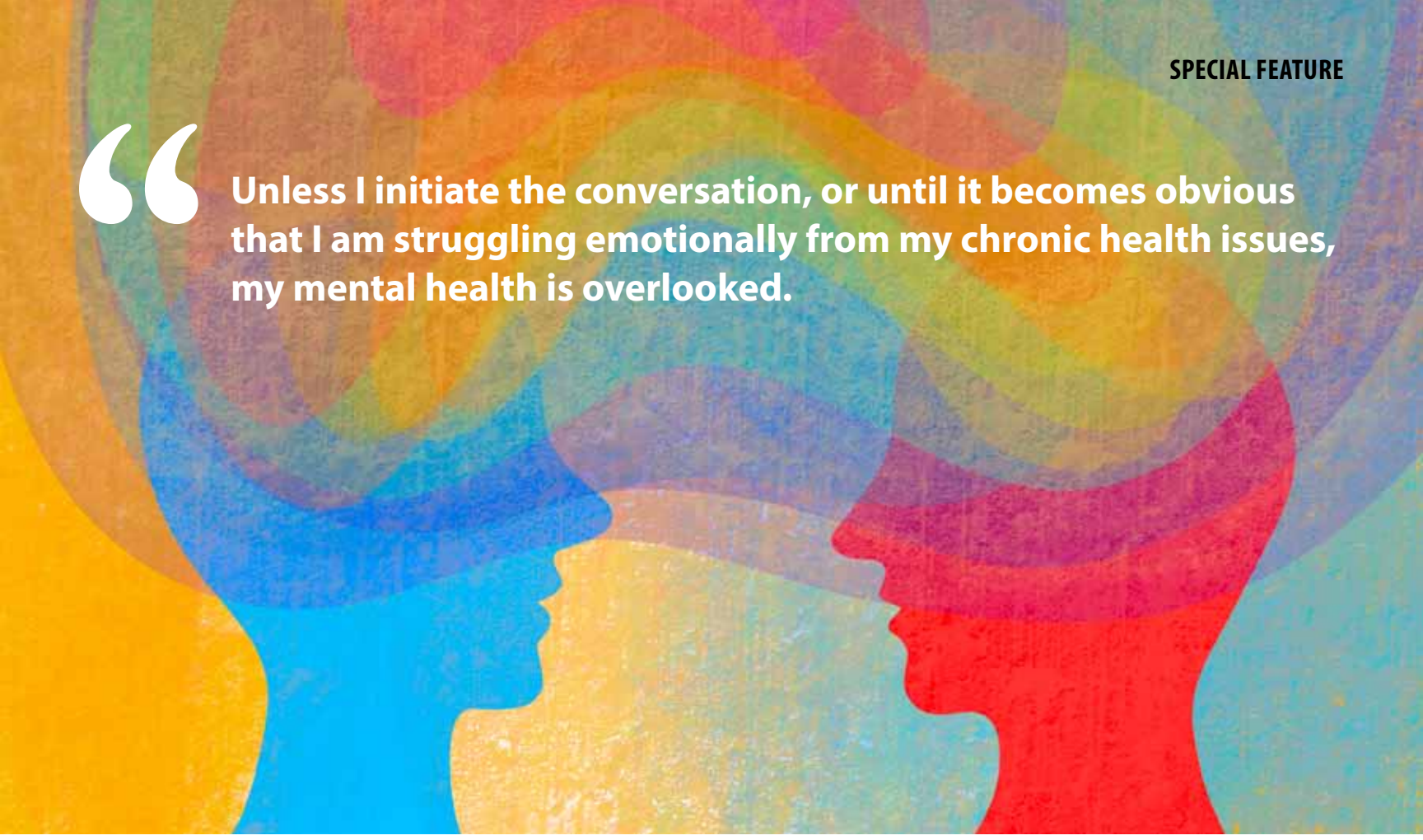
When you're a patient, most of your objective medical knowledge goes out the window.

Another challenge I have experienced is that of being a physician-patient. On one hand, as a physician, I am very much aware of the challenges that we face, how amid our busy schedules we must triage cases based on urgency, despite having hundreds of patients whose concerns are all important and valid. On the other hand, being a physician does not make me immune to the emotions that can result from being a patient with a serious medical condition. I have experienced the anxiety of having to wait several weeks to discuss results, knowing that they are already available. I have felt the frustration of being consistently reassured about my symptoms while they greatly affected my quality of life and precluded me from doing the things that I love. I have felt the nervousness that comes with being told that the next available appointment is several weeks away when the thought of waiting that long to hear my physician's opinion seemed impossible. And then there is the interesting dichotomy of how physician-patients are treated—at times as a colleague (asked to look up our results once they are available), and at times as a patient (told not to contact our doctors via email, when we would be able to as a colleague). It can all be very unclear and, at times, frustrating.

After much introspection, I have realized the experiences I have had as a patient are important and have taught me things I would not have learned had I not been "sick" for the better part of a year. I have become aware of details that are essential to patient care but that are not necessarily taught in medical school. Although my journey over this past year has been tremendously difficult, it has provided me with tools to become an even better physician. I believe we can enhance patient care through empathy and compassion, and that we must remember that our profession does not make us immune

Dr Topic is a medical oncologist with BC Cancer in Kelowna and a clinical associate professor and multiple-choice question provincial pillar lead, undergraduate medical education, at the University of British Columbia.

This article has been peer reviewed.



> **Unless I initiate the conversation, or until it becomes obvious that I am struggling emotionally from my chronic health issues, my mental health is overlooked.**

to the human experience that comes with being sick. I hope my experience can help us all in our quest for optimal patient care.

The physician-patient

In my experiences as a patient, I often heard the phrase "We don't need to tell you about this; of course you already know!" In fact, many years ago, I even had a specialist say to me, "You don't need me; you know how to manage diabetes!" Comments like these are problematic. First, they can make a patient hesitant to come forward and admit that they do not know this information and want to be informed and educated. Second, when you're a patient, most of your objective medical knowledge goes out the window. There is a reason it is prohibited to be your own physician: it is exceedingly difficult to be objective when it comes to your own medical challenges. There seems to be a false assumption that physicians are immune to the fear, anxiety, and vulnerability a patient can experience. We also want, and have a right to, the same level of care as any other patient, and that includes thorough explanations of diagnosis, prognosis, and management, without the assumption that we already know everything that is going to happen. It can be disconcerting to find out about a procedure (in my case a PICC line) or an investigation without being told in advance, because the assumption was that you must have known because you're a doctor. To put it simply, physicians want to be treated like any other patient. The need to feel safe and cared for is a need common to all humanity, regardless of profession.

A note on informed consent

We are all familiar with the notion of informed consent—that is, a patient's right to know a reasonable amount of information so they can make an informed decision on how to proceed. The question is what is reasonable. What may be reasonable to one patient may be irrelevant to another. We cannot accurately determine what information is reasonable for a particular patient without knowing about their lifestyle, values, and goals. True informed consent is predicated on taking the time to get to know your patient. For example, a concert pianist may be very concerned about a medication's small risk of neuropathy, which could end their music career, but may not be as bothered about the associated risk of nausea. Conversely, a patient that does not have an occupation dependent on dexterity may be worried more about other side effects.

This concept of true informed consent came from my experience as a patient. Prior to my transplant, I was a competitive runner who also had a rheumatological disorder that predisposed me to fracture. I did not become aware of the risk of bone loss associated with my immunosuppressant medications until after I had been taking them for several months, and after being diagnosed with new fractures. Given my lifestyle, this risk of bone loss is very relevant to my informed consent, but as it was a rare side effect, it was not something that was highlighted to me. The high risk of diarrhea associated with these medications was not a side effect particularly concerning to me, although I was counseled on it several times. The same applies to the rare side effect of dyspnea, which I had. It was distressing to have severe difficulty

breathing without knowing why, until I learned that this can also be a rare side effect of my medications. Because my transplant was part of a clinical trial with voluntary participation, I questioned whether I would have consented had I known these risks beforehand. As a physician, I appreciate that it is virtually impossible to inform our patients of every potential risk of treatment. Nevertheless, it was these experiences, and the resulting effect on my quality of life, that led to my realization that informed consent requires us to do a thorough social history on our patients and take the time to get to know our patients—their hobbies, interests, careers, and values. Having a frank discussion with our patients about what is important to them can avoid future distress on the patient's part and can also inform us on the impact of our treatment plan on their lives. For example, how frequent are their appointments? How often will they have to go to a lab to get bloodwork? How far do they have to travel? Will they need to take time off work? Do they need to find child care or a pet sitter to accommodate appointments? All these factors can have an impact on a patient's life, and to be able to answer these questions, we need to know much more about our patient than their medical diagnosis. I understand that, as physicians, we are often challenged for time, and it can be difficult to take a detailed social history, but it is one of the most essential parts of the patient's medical history if we aspire toward optimal patient care and patient satisfaction. Furthermore, this notion needs to be instilled at the medical student level. We need to teach our students the importance of a social history and to lead by example. True informed consent is predicated on taking the time to get to know your patient.

Our words make a difference

Without question, communicating effectively and compassionately with our patients is integral to optimal patient care, and we carry a significant responsibility in what we communicate to patients. If not well thought out, our words can lead to false hope, misunderstandings, and misguided expectations.

Human nature makes us want to convey hope and positivity to patients, but rarely should we state facts with absolute certainty. Statements such as "I know you will be just fine" or "You will feel better in no time" appear benign, even kind, but they can provide dangerously false hope and the misleading assurance that nothing will go wrong. We may sometimes be hesitant to convey uncertainty or to share difficult information with our patients; however, I don't think we give our patients enough credit in terms of what they can handle emotionally and how much worse things can be if patients feel misled. It is vital that patients are also prepared for rare adverse outcomes; they have a right to know what serious adverse effects are possible, not only those that are likely to occur. As a patient who experienced rare side effects and toxicities from my medications, and whose postoperative course had unexpected complications, I felt unprepared for my experience having been given assurances prior to my procedure that things would go well. I can't emphasize enough that we can never know how a patient's course is going to play out, and vocabulary that communicates certainty can be problematic.

True informed consent is predicated on taking the time to get to know your patient.

The significance of mental health in chronic disease

The link between having a chronic disease and suffering from mental illness such as depression, anxiety, and other psychiatric conditions has been well described in the literature; however, it has been my experience that it is a concept rarely addressed in clinical practice. Throughout my years as a patient, I have often felt that my mental health wasn't given the same level of attention as my physical health. Only a select few of my health care providers asked me the simple question "How are you doing?" unless it related to my physical well-being. It seems that unless I initiate the conversation, or until it becomes obvious that I am struggling emotionally from my chronic health issues, my mental health is overlooked.

I'll be frank: my entire life was turned upside down this year. Things that provide me with a sense of identity, self-worth, purpose, and joy were taken away unexpectedly. For several months, I was unable to practise medicine, teach my medical students, or run competitively. Although my journey has been incredibly challenging from a physical perspective, the impact on my mental health has been equally difficult. Sometimes a patient may be less interested in their latest test results than in regaining their happiness and sense of purpose. We can help by simply asking questions and showing interest in our patients' mental welfare.

I believe all patients being treated for chronic disease should be asked about their mental health and screened for mental health disorders. We should not rely solely on a referral to a psychiatrist or counselor, which can take several months, when as physicians, we have all been trained on how to take a psychiatric history. I found it very impactful when a physician asked me "How are you doing? How is your mental state? How are you coping emotionally?" Upon my gradual return to practising medicine after my illness, there have been several occasions when, upon asking my patients these same questions, they have been overcome with emotion, and it has led to a long discussion about their difficulties in coping with their illness. Clearly, these are questions we need to be asking our patients.

Closing thoughts

We can be better physicians if we truly get to know our patients and what is important in their lives. Our agenda should be aligned with our patients'. The physician-patient alliance can be strengthened through this shared vision, and the patient experience can be enhanced. Furthermore, we must remember that we, as physicians, are not immune to illness, and we should be mindful of how we care for our physician-patients. Although I would not want anyone to experience illness in order to gain these insights, I hope that by sharing my experiences I can help us become more conscientious and holistic physicians. ■

Competing interests
None declared.

Advancing Indigenous cultural safety and humility in health care

Transformative and lasting reconciliation with Indigenous peoples requires action from all health care professionals and providers in British Columbia. We are obliged to act on the deep injustices of colonialism and anti-Indigenous racism. The Joint Collaborative Committees (JCCs) have pledged to walk with First Nations, Métis, and Inuit peoples as we support the need to reframe how physicians and their teams deliver care for Indigenous people. We have opened our minds and hearts to recognize the negative impact that colonialism has had and continues to have on Indigenous communities, and how unsafe health care spaces have left many Indigenous patients fearful to seek medical assistance.

We acknowledge that, as physicians, we can shift our own biases and perspectives to become meaningful advocates for systemic change. We are compelled to fully appreciate the impact of culturally unsafe care and to formulate ways to create space in the health care system to better meet the needs of Indigenous patients. This work cannot be achieved without the insights of and partnership with Indigenous peoples.

Ensuring the medical profession's efforts align with the United Nations Declaration on the Rights of Indigenous Peoples, the Truth and Reconciliation Commission, and the Government of British Columbia's *In Plain Sight* report, we continue to ground our journey in meaningful relationships with Indigenous communities, Elders, and Knowledge Keepers; the BC Ministry of Health; the First Nations Health Authority; and BC's other health authorities.

This article is the opinion of the Joint Collaborative Committees (JCCs) and has not been peer reviewed by the BCMJ *Editorial Board.*

Elder Tey-U-Tun Cyril Pierre shares his deeply emotional experience as a residential school survivor.

BC Indigenous artist sɬáməxʷ Rain Pierre stands with the artwork* The Light of Irene *and his parents.

How are we getting there?

On 8 September 2022, the JCCs hosted a landmark and symbolic truth and reconciliation ceremony in Vancouver. The event was a landmark in that the JCCs invited and called witness physicians and other health care partners from across the province to participate. It was symbolic in purpose, as the JCCs acknowledged that the ceremony was both healing and medicinal. Guided by the wisdom of Elders and Indigenous leaders, we explored and learned about a much deeper history of Indigenous peoples and were guided on protocols and customs.

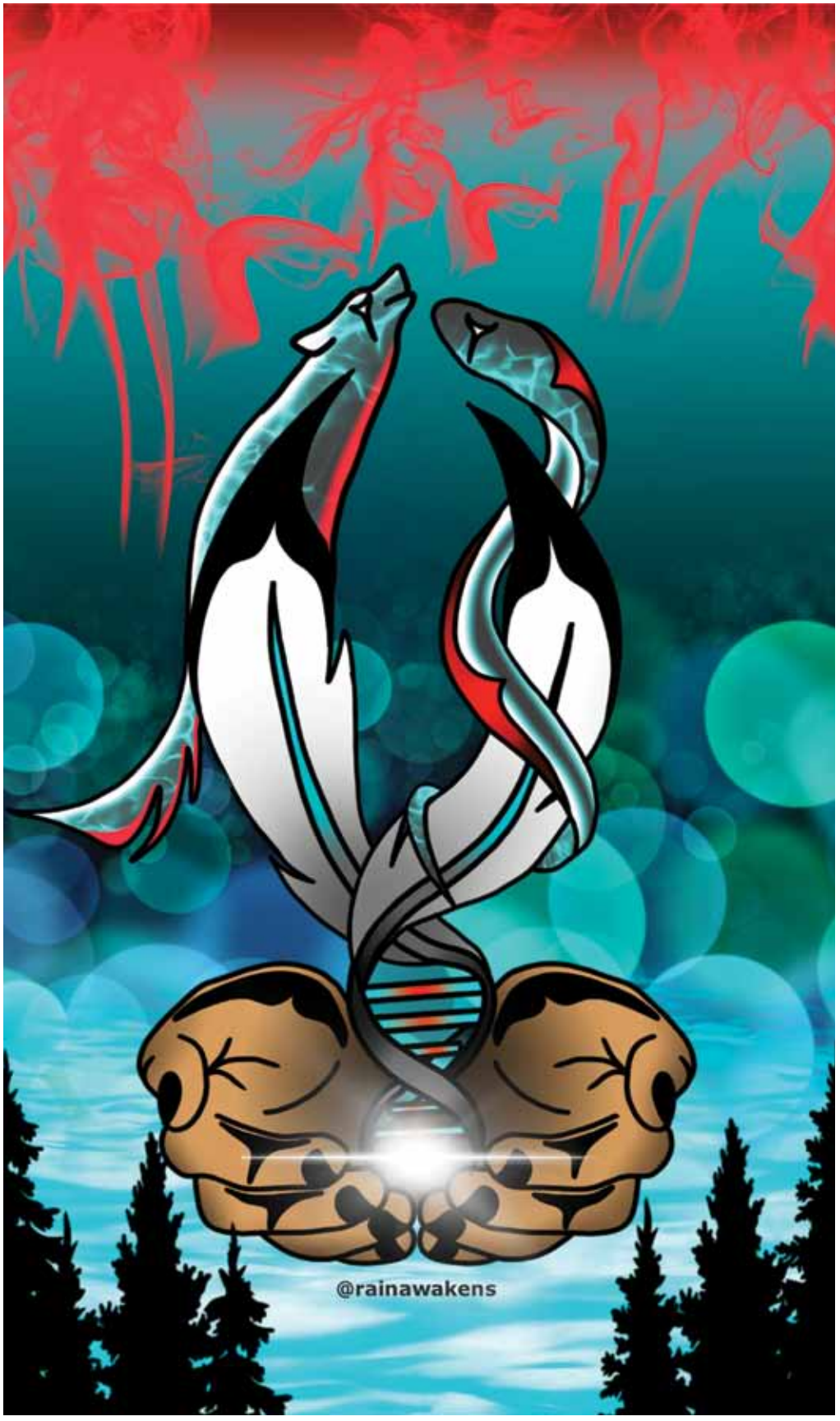
The ceremony culminated in the unveiling of a commissioned work of art by BC Indigenous artist sɬó́məxʷ Rain Pierre. *The Light of Irene*, named after Mr. Pierre's late aunt, was created in collaboration with BC family and specialist physicians. The artwork will serve as a beacon of safety in health care to Indigenous patients and to those who provide their health care. It is an invitation to inspire meaningful health care conversations and to build trust. Various elements and symbols embedded in the art provide deep intentional meaning; one such example is the wolf, who belongs to a pack, as health care is best delivered by collaborative teams.

Attendees and witnesses of the ceremony were guided on their own healing journeys through drumming and song from the Xwelmexw Shxwexwo:s (Salish Thunderbird). We also heard from Elder Tey-U-Tun Cyril Pierre as he shared his deeply emotional experience as a residential school survivor. His truth was a raw and determined call to the medical profession to do its part in reconciliation with Indigenous peoples.

This autumn, the first string of longhouse sessions were hosted and facilitated by Len Pierre Consulting, providing an opportunity for physicians to engage with local First Nations communities to learn more about Indigenous culture and protocols, and to connect with Indigenous health care providers.

A series of Indigenous-led cultural safety webinars will be facilitated by Harley Eagle, Indigenous facilitator and consultant, this winter.

The JCCs have partnered with Indigenous leaders Team Atleo to deliver the Compassionate Leadership program and curriculum to physicians, health care teams, and partners across BC.



The Light of Irene *by Rain Pierre. This artwork, named after Mr Pierre's late aunt, was created in collaboration with BC family and specialist physicians.*

Mr Rain Pierre, Indigenous artist; Dr Ramneek Dosanjh, president, Doctors of BC; and Dr Alan Ruddiman, co-chair, Joint Collaborative Committees, participate in an honorary blanket ceremony for the work they have accomplished in advancing cultural safety in health care.

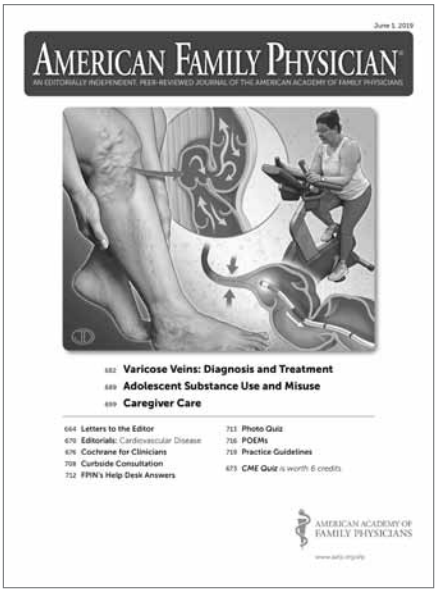
It is through Doctors of BC and the JCCs' continued partnerships with Indigenous communities that we are able to make an impact and a meaningful difference in the lives of Indigenous patients. Creating safe spaces, understanding cultural protocols, and using trauma-informed care are just a few ways for us to make a lasting difference.

A copy of Mr Pierre's artwork is now available to every doctor, medical practice, and medical workplace in BC. Its representation is to be a visible symbol of belonging and safety and our deep commitment to truth and reconciliation. Displaying this artwork prominently in your practice and workplace is one way of demonstrating that you are open and committed to the provision of culturally safe and appropriate health care for your Indigenous patients.

To request a free copy of the artwork for your practice or office, please complete this online form: https://doctorsofbc.jotform.com/phiggins/tandsposter. ■

—Alan Ruddiman, MD
Emcee, JCC Truth and Reconciliation Ceremony
Co-chair, Joint Standing Committee on Rural Issues

Accessing our most readable journal



American Family Physician is a very popular journal due to its readability. Written with the busy practising clinician in mind, it often uses tables to concisely impart large amounts of clinical knowledge.

Sometimes referred to as the AAFP journal, *American Family Physician* is available to College registrants with library access. To access this journal, go to the College Library's books and journals web page: www.cpsbc.ca/registrants/library/books-and-journals. Click on the teal "Search online journals" box. When the publication finder loads, search for the words "American family." *American Family Physician* will be the first result. From the full-text-access options displayed below the name of the journal, click on "ClinicalKey Subject Collection – Family Medicine." At this point, there will be a prompt to log in. After you log in, it may take a moment for the page to load. Click on "Current Issue" to read the latest information, or choose a volume, then an issue, to read content from previous months.

This method can be used to access other journals in the Library's eJournal subscriptions as well. Enter a few words of a journal's title into the publication finder. From the results, look at the links under the full-text-access options and choose the one with the year range that best suits your needs.

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—Niki Baumann
Librarian

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  The secondary efficacy endpoint was the mean change from baseline to end of treatment in wake after sleep onset (WASO) measured by polysomnography. WASO was defined as the minutes of wake from the onset of sleep until wake time.

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Obituaries

We welcome original tributes of less than 700 words; we may edit them for clarity and length. Obituaries may be emailed to journal@doctorsofbc.ca. Include birth and death dates, full name and name deceased was best known by, key hospital and professional affiliations, relevant biographical data, and a high-resolution head-and-shoulders photo.

Dr Donald Enarson
1946–2022

Dr Donald Enarson died unexpectedly at age 75 on 2 June 2022. Known to everyone as Don, he attended medical school at the University of Alberta, graduating in 1970. He trained in internal medicine at Vancouver General Hospital and the Mayo Clinic, joining the UBC Department of Medicine in 1980, becoming associate professor in July 1985, and full professor in November 1987 at the University of Alberta. His Christian faith in many ways dictated his career, and in 1974 he spent a year in South Sudan as a medical supervisor of the interdenominational Christian organization African Committee for the Rehabilitation of South Sudan. From 1978 to 1980 he served with Overseas Missionary Fellowship as a consultant in health in the Philippines.

Don's lifelong interest in tuberculosis stemmed from his awareness that the disease preferentially affected the most socially disadvantaged. To this end, in 1991 he joined the International Union Against Tuberculosis and Lung Disease as its first full-time director of scientific activities, based in Paris. During his tenure he made remarkable contributions. He wrote a seminal paper describing the five essential components of directly observed treatment short course, which was eventually adopted by the World Health Organization in 1994 and subsequently expanded around the globe. The strategy was later applied to other lung-health problems including asthma, COPD, pneumonia, and respiratory infections in children.

He also pioneered an epidemiologic approach to tuberculosis prevention and care, acted as a public health advisor in 42 countries, lectured in 72 countries, and coordinated training courses in 15 countries. Despite his extensive travels, he found time to author over 400 scientific publications. He was a mentor to many young physicians, always available to offer advice, supporting them in becoming knowledge experts themselves to, in turn, offer support in their low- and middle-income communities. In any meeting that Don attended, he was surrounded by throngs of attendees waiting to speak to him or just shake his hand.

In 2019 he was awarded the Distinguished Alumni Award from the University of Alberta, its highest honor, recognizing lifetime professional achievement and service to society.

Don and I shared duties on the board of the BC Lung Foundation prior to his retirement. His style was to listen carefully to the issue at hand and then calmly give his sage opinion. Spending time with him in Paris was always memorable, as he was an enthusiastic gourmand and relished ordering unconventional dishes such as pigs' ears and challenging his company to do the same! He orchestrated legendary meals at his home, where he would provide 20 to 30 dishes to choose from, all of which he made himself.

He was the quintessential professor and dressed accordingly, always sporting a colorful bow tie and blazer. Don was a warm, kind, caring physician; a gentleman; and a scholar. I can give him no higher praise. Nor indeed can his country, as shortly before his death he was awarded the Order of Canada. He is survived by Penny, his wife and constant companion for what she describes as 46 wonderful years. He leaves a global legacy that BC and indeed all of Canada can be proud of.

Requiescat in pace.

—Kevin Elwood, MD
Vancouver

Dr Petar Kokan
1930–2022

Dr Petar Josip Kokan was born in Split, Croatia, on 9 July 1930. He witnessed the events of World War II and how they affected Split,

including the Italian occupation, followed by the German occupation. After the war, Petar was a hardworking student and rowed at the Gusar rowing club in Split. He studied medicine and graduated from the University of Zagreb in 1954. He then went to Germany, where he completed a residency in general surgery.

Petar did not want to live in a socialist state and made the difficult decision to leave his family behind and take his new bride, Nada, with him overseas. He arrived in Canada in 1960 and, after living for a short while in Toronto, moved to Victoria, Vancouver, and then Nelson, where he was the public health officer.

He moved back to Vancouver by 1968, completed a residency in orthopaedic surgery, and started his own in practice in 1974. He worked consistently and always did his best for his patients, whether from his office on Burrard Street across from St. Paul's Hospital or from Shaughnessy Hospital or Mount Saint Joseph Hospital. He finally closed his practice in 2000.

Although he was most often at work, he made the most of his occasional days off and loved the outdoors that British Columbia has to offer. He loved hiking and skiing especially, and the beach and windsurfing in the summertime.

He will be remembered for being the centre of attention wherever he went. He loved people and loved telling stories, making speeches, or singing in an impromptu klapa.

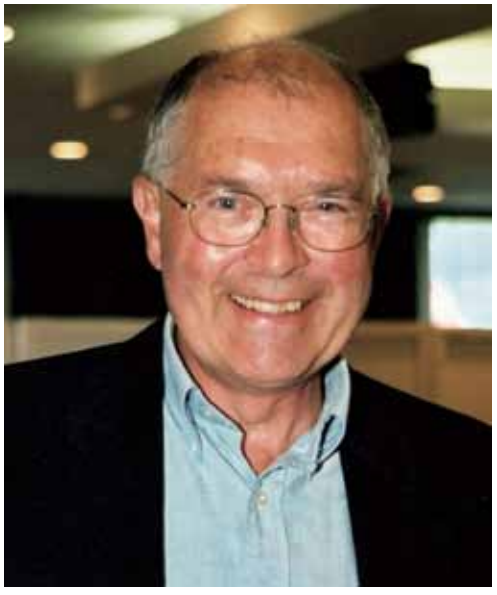
He loved his regular walk down to the Fraser River. He loved watching his grandchildren play soccer, ride horses, or play their musical instruments. He cherished debating anybody and listening to their views, but of course he was always right!

On 14 September 2022, at age 92, he passed away peacefully with his family at his side at Vancouver General Hospital, following medical difficulties that developed after falling and suffering fractures. He was steadfast in his Catholic beliefs and knew that he would be ascending to heaven where he would join his beloved brother, Luka; sister, Pina; and parents, Manda and Ivan.

He leaves behind his wife, Nada; children, Jane, Matthew, Peter, and Daniel; and daughters-in-law, Marnie, Michelle, and Melisa. He is sadly missed by his beloved grandchildren, Daniel, Julia, Owen, Thomas, Faye, Steven, Ethan, and Natalia.

Our family is eternally grateful to the Croatian Catholic community and to Fra Duje, who blessed him twice in hospital, with last rights given shortly prior to his death. Petar was a proud Croatian and will be sadly missed by all.

—Peter Kokan, MD
Vancouver



Dr Kenneth Walter Turnbull
1937–2022

Dr Ken Turnbull passed away at 84 years of age in Vancouver on 3 July 2022. Born, raised, and educated in Vancouver, he was valedictorian of his high school graduating class and completed his undergraduate degree in civil engineering, his MD, and an anesthesia residency at the University of British Columbia. Following graduation he was appointed at Vancouver General Hospital (VGH), where he practised for 30 years, and to UBC, where he was a clinical professor. His practice was broad, and he was involved in all areas, including cardiac anesthesia and ICU care.

Ken will perhaps be best remembered for his ever-constant smile and laugh. He loved his work, his friends, and his family, and brought to all of them a tremendous joie de vivre.

Ken was a passionate clinician, instructor, academic, leader, and mentor. He excelled as a clinician-teacher—he was frequently requested by his colleagues for their own care. One colleague commented, "With his excellent clinical judgment and EQ, Ken could mentor in such a subtle manner that he built confidence in my own dubious abilities. I particularly admired how he never talked down to patients when they were at their most vulnerable." Another remarked, "Ken was always a delight to be around. He had tremendous good humor and always seemed to be laughing." Another commented, "I am one of the few younger-generation anesthesiologists who had the great fortune to have him as my medical school mentor and was able to seek his guidance and support throughout my anesthesiology training. He truly was an exceptional clinician, leader, teacher, and mentor. He was also a pioneer in our field."

Ken was a leader in the VGH department throughout his career; he was responsible for the Visiting Professor Program for many years and was an early leader in the developing field of resuscitation, and much later, of simulation programs in anesthesia. He served on many committees at VGH and as interim head of the VGH Department of Anesthesia. Outside his department, he was president of the BC Anesthesiologists' Society and a representative to the Canadian Anesthesiologists' Society's council in the 1970s. While not a researcher, he had several publications (including co-authoring one on chronic bronchitis as a student, and a significant early patient safety review[1]). He was a popular visiting professor nationally and internationally.

Ken was awarded the Canadian Anesthesiologists' Society's Clinical Practitioner Award in 2002; it was only the second time that the award was given and the first time to a BC recipient. He was also recognized with a Doctors of BC CMA Honorary Membership Award in 2016, and he was the recipient on two occasions of the Physician's Recognition Award from the American Medical Association.

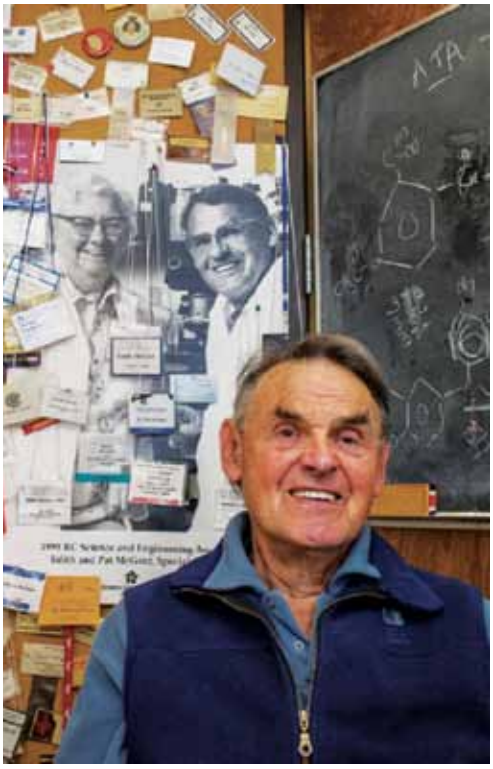
Outside the operating room, Ken was equally known. He had friends all over the world as a result of his passion for ham radio. He was an active flyer, piloting a Republic RC-3 Seabee (an amphibious sports aircraft), flying with friends to lakes around BC for camping and fishing.

Dr Turnbull and his ever-present smile will be sorely missed by his family (Deanna, three children, and six grandchildren) and his many colleagues and friends.

—Richard N. Merchant, MD, FRCPC
New Westminster

Reference

1. Turnbull KW, Fancourt-Smith PF, Banting GC. Death within 48 hours of anaesthesia at the Vancouver General Hospital. Can Anaesth Soc J 1980;27:159-163.



Dr Patrick L. McGeer
1927–2022

A long-form version of this obituary is published at www.bcmj.org.

Dr Pat McGeer died peacefully at home surrounded by family and devoted friends on 29 August 2022. Pat was born in Vancouver to James McGeer, a judge, and Ada (Schwengers) McGeer, one of McGill University's first female graduates and a producer for CBC Radio. In his early years, he was fascinated by chemistry, conducting home experiments with explosives. He went on to graduate with a first-class honors degree in chemistry from UBC.

Pat was also the UBC Thunderbirds' all-time leading scorer and represented Canada on the 1948 Olympic basketball team. His team's most famous exploit was a cliff-hanger defeat of the Harlem Globetrotters. Turning down an offer from the NBA's Philadelphia Warriors, he went on to pursue his PhD at Princeton.

Pat graduated in 1951, with a thesis that pointed out how radio waves could be used to heat food. Next came a job at DuPont's experimental research station in Wilmington, Delaware, where he met fellow research chemist Dr Edith Graef, courting her with flights in his diminutive Aeronca Champion. They married in April 1954 and moved to Vancouver, where Pat obtained his medical degree from UBC. Edie meanwhile volunteered as an assistant in Dr Bill Gibson's fledgling neurochemistry lab at UBC. Over dinner she fascinated Pat with stories from the lab, and after graduation they joined forces, initiating a scientific partnership that would last over 60 years.

Pat was instrumental in establishing the then fledgling field of neuroscience in Canada, and in the 1960s he founded the UBC Division of Neuroscience, serving as its head for nearly 20 years.

Pat was instrumental in establishing the then fledgling field of neuroscience in Canada, and in the 1960s he founded the UBC Division of Neuroscience, serving as its head for nearly 20 years. Pat and Edie achieved many notable firsts, such as introducing the concept of using neurotransmitter synthetic enzymes as markers for biochemical neuroanatomy and pathology and pioneering the concept of neuroinflammation as a contributor to neurodegeneration, particularly in Alzheimer disease. They co-authored, together with Nobel Laureate Sir John Eccles, the first edition of *Molecular Neurobiology of the Mammalian Brain*.

They had time for fun and family too. Their recycled BC forestry boat was often on Howe Sound, with Pat in the bilge tending the recalcitrant diesel engine. After one breakdown too many, it was retired in favor of cottage life (first on Bowen Island, then on Skaha Lake) and other recreational activities: travel, skiing, and boating in a speedier runabout.

Pat's interest in politics was driven by his early career at DuPont. In the first of nine campaigns, he won a landslide Point Grey by-election in 1962. As an opposition Liberal member, he wrote a book, *Politics in Paradise*, laying out a vision of a higher-tech BC for a more prosperous future.

He later recruited his college friend Garde Gardom to run with him in the then two-member seat. They were a dynamic duo, first as opposition Liberals and later in government bench, having joined forces with the Social Credit Party in 1975.

Pat held several cabinet posts within the Social Credit Party and as minister of successive portfolios of Education; Education, Science, and Technology; Universities, Science and Communications; and International Trade. He began North America's first open university (the Knowledge Network), sponsored an engineering program at Simon Fraser University and the University of Victoria, encouraged BC's nascent tech industry with the Discovery Foundation, spurred a natural-gas vehicle industry in response to the oil crisis of the 1970s, and was the leading force behind building a teaching hospital at UBC.

Pat also played a vital role in the history of the wine industry in BC. As a cabinet minister he upset the local industry by criticizing the BC wines of the early 1970s. When wine producers challenged him to a blind public tasting of local versus imported wines, he identified the poorest wines as being from BC. A world-renowned BC wine industry followed.

Pat's pride and joy were tennis and his backyard grass tennis court, where he played regularly into his 95th year. For over 40 years it was the centre for a burgeoning community of avid tennis players, all of whom were excited to be invited to participate in the annual "Wimbledon West" tournament.

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CME calendar

Rates: $75 for up to 1000 characters (maximum) plus GST per month; there is no partial rate. If the course or event is over before an issue of the *BCMJ* comes out, there is no discount. **Deadlines:** ONLINE: Every Thursday (listings are posted every Friday). PRINT: The first of the month 1 month prior to the issue in which you want your notice to appear; e.g., 1 February for the March issue. The *BCMJ* is distributed by second-class mail in the second week of each month except January and August. **Planning your CME listing:** We suggest that your ad be posted 2 to 4 months prior to the event. **Ordering:** Place your ad at www.bcmj.org/cme-advertising. Payment is accepted by Visa or Mastercard on our secure online payment site.

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Though Pat retired from his formal academic position in 1992, he and Edie maintained an active research program. Attracting international attention and acclaim, they collaborated on three books and more than 1000 research papers, documenting discoveries that would lay the foundations for groundbreaking treatments of diseases ranging from Parkinson to Alzheimer disease. Pat returned to the lab full-time with his trademark zest. The discoveries came thick and fast, including the link between Alzheimer disease and neuroinflammation. In 2012 they founded Aurin Biotech, a company dedicated to the development of novel agents to fill the need for safe, effective, and orally available therapeutics for Alzheimer disease.

Pat received multiple honors, awards, and honorary degrees throughout his life. Both he and Edie were appointed to the Order of Canada and the Order of British Columbia.

Pat is survived by his wife of 68 years, Edie; children, Rick (Karen), Tad, and Tori (Philip); long-time family friend Jane Burnes; and grandchildren, Rory, Owen (Molly), Sean (Alex), Kailee, Liam, and Simone.

—McGeer Family

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The *British Columbia Medical Journal* is a general medical journal that seeks to continue the education of physicians through review articles, scientific research, and updates on contemporary clinical practices while providing a forum for medical debate. Several times a year, the *BCMJ* presents a theme issue devoted to a particular discipline or disease entity.

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1. Gilsanz V, Gibbons DT, Roe TF, et al. Vertebral bone density in children: Effect of puberty. Radiology 2017; 166:847-850.

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2. Mollison PL. Blood Transfusion in Clinical Medicine. Oxford, UK: Blackwell Scientific Publications; 2020. pp. 78-80.
3. O'Reilly RA. Vitamin K antagonists. In: Colman RW, Hirsh J, Marder VJ, et al. (eds). Hemostasis and Thrombosis. Philadelphia, PA: JB Lippincott Co; 2015. pp. 1367-1372.
4. Health Canada. Canadian STD Guidelines, 2017. Accessed 15 July 2021. www.hc-sc.gc.ca/hpb/lcdc/publicat/std98/index.html.

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Dr Terri-Leigh Aldred

Dr Aldred answers the Proust Questionnaire, telling us a bit about her life and what drives her.

Dr Aldred is a new member of the BCMJ *Editorial Board. She is Carrier from the Tl'azt'en territory located north of Fort St. James. She is a member of the Lysiloo (Frog) Clan, who are traditionally known as the voice of the people. She follows her mother's and great-grandmother's line, Cecilia Pierre (Prince). Dr Aldred grew up in both the inner city of Prince George and on the Tachet reserve (in Lake Babine territory) and these experiences helped motivate her to go to medical school so she could give back to her community. She has a doctor of medicine degree from the University of Alberta and completed the Indigenous family medicine residency program through the University of British Columbia. At present, Dr Aldred is the medical director for primary care for BC's First Nations Health Authority, the site director for the UBC Indigenous family medicine program, a clinical instructor with UBC and UNBC, a family physician for the Carrier Sekani Family Services primary care team, which serves 12 communities in north-central BC, and the Indigenous lead for the Rural Coordination Centre of BC.*

Where do you live?
Lheidli T'enneh traditional territory, whose colonial name is Prince George.

What profession might you have pursued, if not medicine?
Pharmacy was the program I was in before medicine, but looking back I think a career in the humanities would have suited me well.

Which talent would you most like to have?
To be able to sing.

What do you consider your greatest achievement?
It's hard to pick. Graduating high school felt huge—the first generation in my family. Defying the odds to get into and complete an MD and not lose myself. My work as the site director for the Indigenous family medicine program, nurturing amazing people.

Who are your heroes?
My older brothers, who always looked out for me. My Indigenous ancestors, who have always walked with me and survived despite the odds. Authors like Maya Angelou, Brené Brown, and Gabor Maté.

What is your idea of perfect happiness?
I'm not sure that it exists, other than in brief moments, like my baby being placed skin to skin after she was born, walking down the aisle, toes in sand, a sip of a perfect cup of coffee or a delicious wine, setting your eyes on a wonder of the world, and finding the balance between service and play.

What is your greatest fear?
Fear itself. To not do the thing. To not truly and fully live. And on the other side, being driven too much by FOMO!

What is the trait you most deplore in yourself?
Deploring traits about myself. Being ridiculously hard on myself.

What characteristic do your favorite patients share?
It's less about individual people and more about the moments I've had with many people, where we meet in our humanness during surreal moments of joy, pain, and sorrow.

Which living physician do you most admire?
I deeply admire and look up to many female Indigenous physicians, like Drs Marcia Anderson, Nel Wieman, Danièle Behn Smith, Shannon Waters, Shannon MacDonald, and Nadine Caron. Dr Evan Adams, of course, and many more.

What is your favorite activity?
Reading and writing as a solo activity, and enjoying a great meal with family and friends.

On what occasion do you lie?
When it's bedtime (haha).

I used to be impulsive to avoid conflict, which I learned as a survival mechanism growing up—I've worked hard to stop this, believing fiercely in the value of honesty. However, I do try to reflect on my words to ensure they are true, necessary, and kind.

Which words or phrases do you most overuse?
"Umm," "like," "so," and "as the saying goes."

What is your favorite place?
Moloka'i. Beaches. Experiencing a new place.

What medical advance do you most anticipate?
Gene therapy.

What is your most marked characteristic?
My grittiness, passion, and perseverance.

What do you most value in your colleagues?
Hard work and dedication.

What are your favorite books?
Nonfiction: anything by Brené Brown.
Fiction: anything by Mitch Albom.

What is your greatest regret?
Anytime when I could have been kinder and offered more grace.

What is the proudest moment of your career?
All the moments when the people I've served have said they felt heard. And being awarded the University of Alberta Rising Star Alumni Award and the Resident Doctors of Canada Mikhael Award for Medical Education.

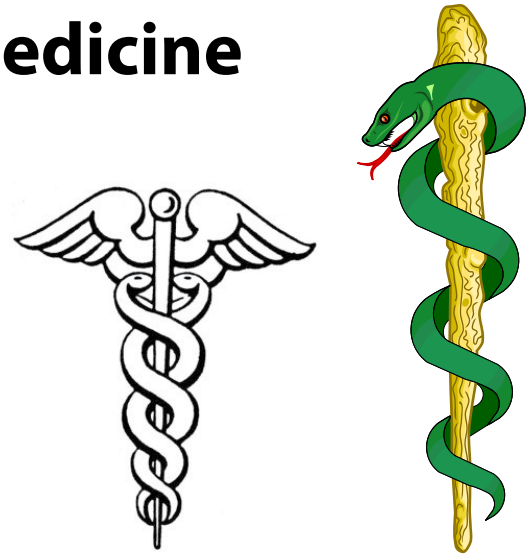
What is your motto?
"I am only one, but I am one. I cannot do everything, but I can do something. And because I cannot do everything, I will not refuse to do the something that I can do."
—Edward Everett Hale

How would you like to die?
Old. Worn-out from a fully lived life. At peace. ■

Symbols of medicine

Deriving meaning and encountering misunderstandings.

James D. Warren, MD



Logo: a symbol or sign; derived from the Greek *logos*, meaning *word*; and designed to represent, at a glance, whatever it purports to represent. Today, thousands of symbols are used as logos, but they are often so graphically simplified that they no longer resemble the source. A symbol can identify a product, idea, company, profession, or activity, and once a logo becomes established, it is often recognized despite being disconnected from its source idea. Symbols can also hold power, based on what they represent.

The rod of Asclepius is the historically correct symbol of the medical profession and is employed worldwide. Asclepius was the Greek god of medicine or healing. The rod is often depicted as a fat club being held by Asclepius with a single snake, gentle and benign, wrapped around it, consistent with gentle healing and idealized medicine.

The wand of Hermes, also called the caduceus, was a symbol that, for a time, mistakenly represented the medical profession in the United States. The wand consists of a winged staff with two snakes wound around it. Hermes was the god of commerce and many other things—travel, luck, fertility, animal husbandry, sleep, language, and thieves. It was an unfortunate choice for a logo for medicine (it was eventually jettisoned), and it isn't altogether clear why the US chose to use the more elaborate but clearly inaccurate caduceus for a time to represent the idealized physician.

The Canadian Medical Association's logo is now designed with a straight line, tapered at the bottom, with a snake loosely twisted around it. The American Medical Association has adopted a similar symbol for its logo—a straight line, on a slant, with a snake coiled around it, much like a spring.

Whether to portray a serpent as a squiggle or a spring is moot. Both associations agreed a stroke line is suitable for a club, and both logos morphed from using clear symbols to cryptic ones. Regardless, we still try to symbolize that medicine, at its best, is widely separated from commerce, though that may be a false hope sometimes. Hermes, god of commerce, is still at the door. ■

Dr Warren practised orthopaedic surgery in Victoria for 38 years, retiring in 2001. He obtained his MD from the University of Manitoba in 1957, an MSc in anatomy and a minor in classics from the University of British Columbia in 1960, and an FRCSC in 1963. In 2013 he gave the Listerian Oration to the Victoria Medical Society and the Osler Lecture to the Vancouver Medical Society on early Greek practices and theories of medicine. He was a member of the Council of the College of Physicians and Surgeons of British Columbia for 12 years.

This essay has been peer reviewed.

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