BCMJ
BC Medical Journal

September 2020: 62:7
Pages 221–260

Think twice: Evidence-based opioid sparing approaches to pain management

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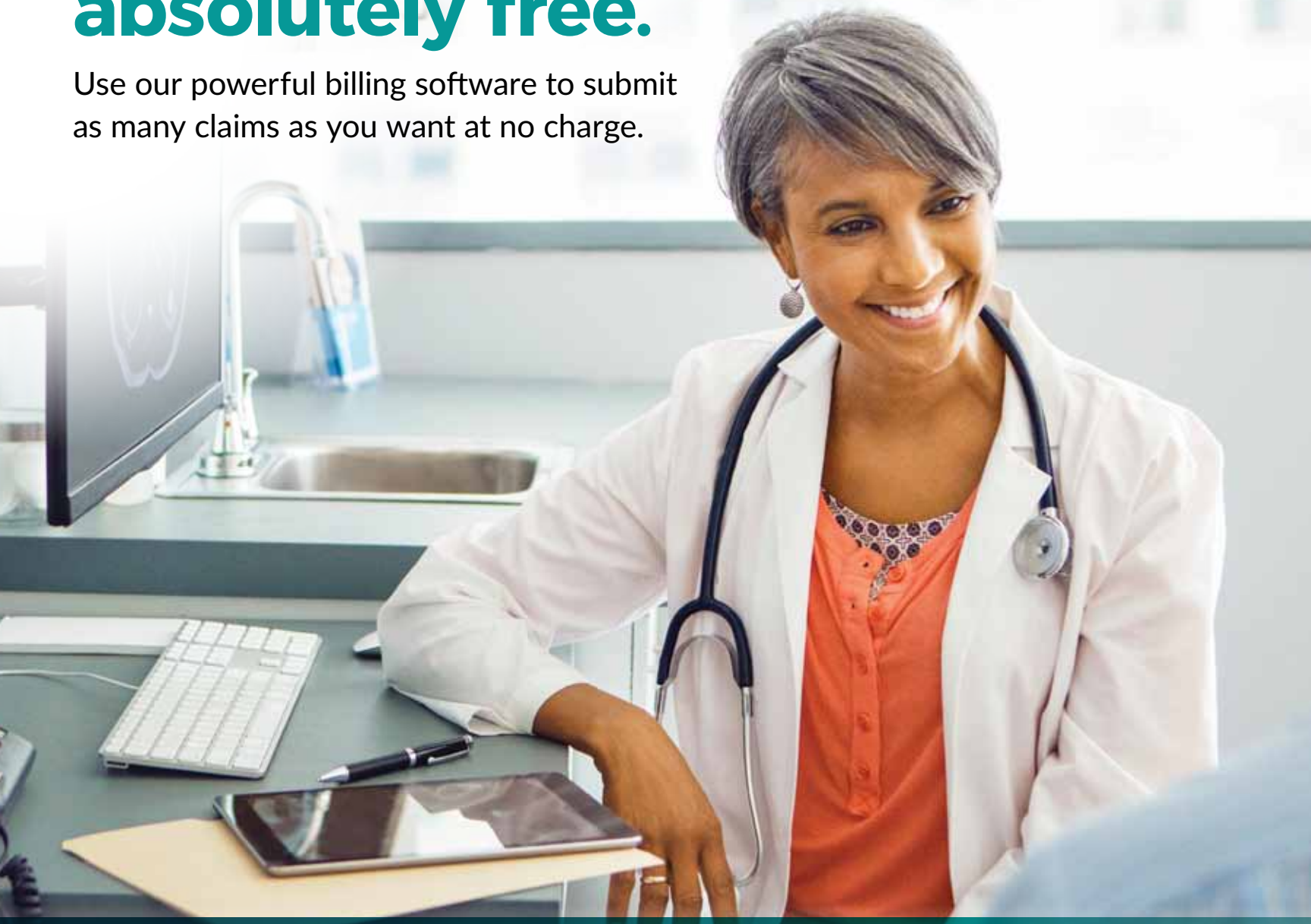

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BC Medical Journal
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Volume 62 | No. 7
Pages 221–260

The global pandemic's effect on medical students varies depending on their year of study—some are relatively unaffected, some are floating in educational limbo, and some are encountering serious challenges to their educational experience. Article begins on page 244.

Contents continued on page 224

Environmental impact
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Postage paid at Vancouver, BC. Canadian Publications Mail, Product Sales Agreement #40841036. Return undeliverable copies to *BC Medical Journal,* 115–1665 West Broadway, Vancouver, BC V6J 5A4; tel: 604 638-2815; email: journal@doctorsofbc.ca.

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ON THE COVER
Think twice: Evidence-based opioid sparing approaches to pain management
Physicians should exercise caution when prescribing opioids to treat pain given the current lack of effective tools for assessing a patient's risk of developing opioid use disorder. Article begins on page 234.

Recent research confirms that COVID-19 can affect the eyes. Article begins on page 232.

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

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

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ISSN: 0007-0556
Established 1959

Contents continued from page 223

What I can do about racial inequality

Amid a global pandemic, George Floyd's death under the knee of a Minneapolis police officer galvanized the movement for racial equality in the United States. Mass protests spread across the country and internationally, denouncing the often-violent treatment that people of color face when dealing with law enforcement. This led to a more general discussion and evaluation of racial inequality, with a focus on the Black experience in America. Individuals and corporations alike flooded social media with statements of support for the #BlackLivesMatter movement.

I am a middle-aged White male, so where does my voice belong, or should I even have a voice? I was raised in a middle-class White neighborhood in the Lower Mainland. There were maybe five families of color in the entire community. Growing up I repeated racist statements, told racist jokes, and was involved in acts of racism. I benefited from all the benefits that White privilege provided. I do not believe the children of those minority families had the same experience I did. In my town, White heterosexual Christianity with well-defined gender roles was the unquestioned norm. My parents were, by most accepted standards, good people who taught me to respect and treat everyone the same, but that is not the reality I lived. This is my background, which I cannot change; it is mine and I take ownership of it. While I feel I had a wonderful upbringing, I am not proud of the lessons I absorbed about race.

I can seek understanding instead of being defensive and guarded.

Like many of my peers, I identify as not being racist. During this time of reflection, is this enough? How do I make the journey to being anti-racist? For many, the idea of talking about race is problematic because doing so suggests that an issue exists in the first place. An ideal world is one in which race, gender, and sexual orientation are not part of the equation, but sadly this is not the current situation. If we as individuals do not change, no change will come. Therefore, starting a discussion seems like a reasonable first step. I cannot undo my background, but I can move toward a greater understanding of how decisions made mostly by older Caucasian men like me have affected society. I can be part of the change in encouraging diversity wherever the opportunity presents itself. I can denounce racist acts no matter how small and perhaps lead others to reflect on their behavior. I can monitor my language and remove sayings and terms that have a racist bent to them. I can learn from others who are more racially sensitive than I am, and follow their examples. I can listen to voices of color with compassion and seek understanding instead of being defensive and guarded. I can be kind, thoughtful, receptive, and open to change.

To be clear, I am by no means perfect and do not pretend to have the answers. I am simply looking for ways in which my flawed, middle-aged, White male physician voice can evolve for the better. ■

—David R. Richardson, MD

To improve the health of Indigenous people in Canada, we must confront racism

Indigenous people in Canada suffer far worse health outcomes than the national average. Rates of maternal and infant mortality, tuberculosis, hypertension, diabetes, and suicide are just a few of the most striking disparities.[1,2] The United Nations Human Development Index includes three basic dimensions of well-being: a long and healthy life, access to knowledge, and a decent standard of living.[3,4] In 2019, Canada ranked 13th out of 189 countries on the index. When that same ranking was applied to Canadian First Nations communities, they ranked 63rd.[5] These statistics, while tragic, are not new.

I think that physicians are well intentioned. We spend our lives trying to heal others. Why, then, are we failing so badly at our attempts to help Indigenous people? To better understand the issue, I spoke with Dr Terri Aldred, a family physician from Tl'azt'en Nation who lives on Lheidli T'enneh territory, in which Prince George is located.

Dr Aldred has seen countless grants and initiatives directed at "fixing those Indigenous people." Unfortunately, she pointed out, "Indigenous people have been studied to death" by White saviors, and each generation wants

to think that they have solved the problem. However, failure to appropriately consider the impact of intergenerational trauma remains a catastrophic shortcoming of many efforts to improve the lives of Indigenous people. Colonialism and the enduring harm of residential schools are two root causes of the health and social inequities that we see today.[6] Even when her patients die for natural reasons, Dr Aldred explained, they still die 10 years below the average Canadian life expectancy.

Her words reminded me of a phrase from *White Fragility*, Robin DiAngelo's best-selling book on race relations in America: We don't have an Indigenous problem; we have a White people problem.

Indigenous people are dying of racism

To DiAngelo, racism is not a matter of "simple intolerance." She defines White supremacy as a "highly descriptive sociological term for the society we live in, a society in which White people are elevated as the ideal for humanity."[7] Her book urges White people to have the "uncomfortable, awkward, and frustrating" conversations that confront their racist worldview and acknowledge that they hold disproportionate institutional power. "White fragility" is DiAngelo's term for the "propensity of White people to fend off suggestions of racism, whether by absurd denials ('I don't see color') or by overly emotional displays of defensiveness or solidarity."[7]

Let's be clear, DiAngelo (and I in quoting her) does not think that all White people are bad, or hateful, or intentionally discriminatory. When I asked Dr Aldred about White fragility, she understood why White people avoid talking about racism—because it makes us feel shame. I agreed, having experienced my own feelings of shame about the actions of my ancestors and the ways in which my life has been easier, just by being born White.

Ironically, racism is easy to ignore because it is ubiquitous. Dr Aldred likened it to "trying to get a fish to see water." A racist worldview can be composed of habits and thoughts that are subtle, almost imperceptible.[7] She reassured me that acknowledging racism does not make one a bad person. Quite the opposite: "We can't heal what we can't name."

So how do we be better? When I asked Dr Aldred that question, she could have called out my arrogance and oversimplification of the issue (and she would have been well within her right to do so). I know there is no easy solution. But what if readers genuinely want to improve the situation for Indigenous people in Canada? What then? Many of us feel that the institutional and governance changes required to address systemic racism are beyond our control. How can one person make a difference from the bottom up?

"It's time to turn the mirror around," said Dr Aldred. She believes that each of us can rebuild and re-create our worldview through self-reflection. Several tools have been developed for this purpose.[8-10] The CHARGE2 framework,[8] for example, is designed to equip health care workers to mitigate unconscious bias. It suggests that you:

- C—Change your context: Is there another perspective that is possible?
- H—Be Honest: With yourself, acknowledge and be aware.
- A—Avoid blaming yourself: Know that you can do something about it.
- R—Realize when you need to slow down.
- G—Get to know people you perceive as different from you.
- E—Engage: Remember why you are doing this.
- E—Empower patients and peers.

Dr Aldred encourages us to take time after a patient interaction, or a committee meeting, or a journal article reading, to consider the embedded biases or engrained racism. How does it make you feel? If the process is painful or difficult, you're probably on the right track. Listen to your patients, reflect, repeat. "It's like peeling back the layers of an onion," she described. "Healing is a journey." ■

—Caitlin Dunne, MD, FRCSC

Acknowledgment

Thank you to Dr Terri Aldred, a Dakelh from Tl'azt'en and proud member of the Lysiloo. She is a family physician and the site director for the UBC Indigenous Family Medicine Residency program.

Dr Aldred's three favorite resources on this subject are:

1. *The Secret Path*, by Gord Downie (https://secretpath.ca)
2. *Indigenous Knowledge to Close Gaps in Indigenous Health*, TEDxUManitoba, by Dr Marcia Anderson-DeCoteau (www.youtube.com/watch?v=IpKjtujtEYI)
3. *The Inconvenient Indian*, by Thomas King (www.penguinrandomhouse.ca/books/93028/the-inconvenient-indian-by-thomas-king)

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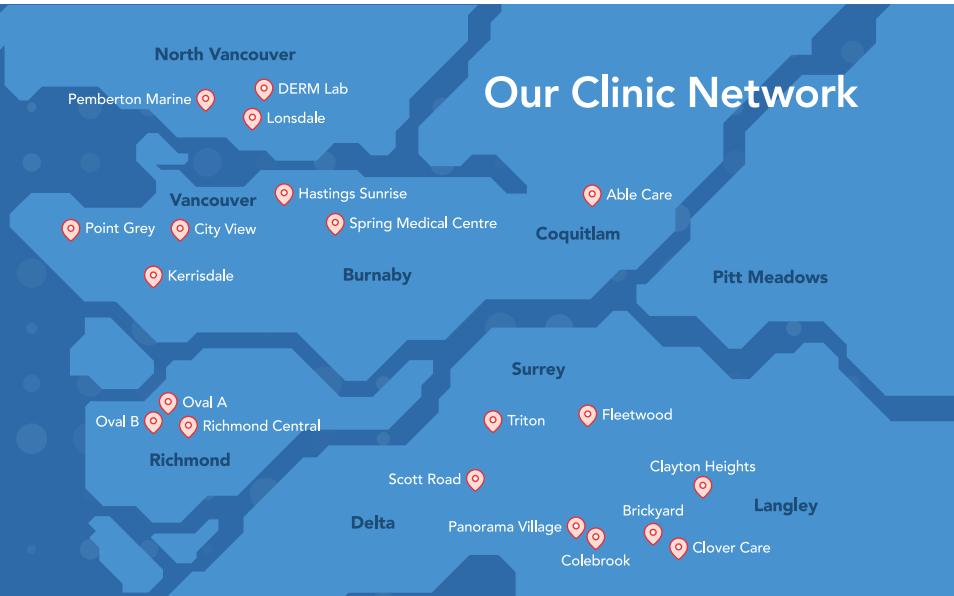

Collective resilience

It is impossible to reflect on our profession's response to SARS-CoV-2 to date in BC without coming across the concept of resilience—particularly the strength demonstrated by our front-line workers, those working on second or third lines, and British Columbians generally, who remained inside their homes, ensuring our population was able to access food, water, shelter, health care, and other supports needed to address the first wave.

Together, we succeeded in flattening our curve without overwhelming our health care system. What cannot be emphasized enough in our success is the resilience of our health care providers, particularly physicians, midwives, and nurses. This pandemic has tested each of us.

As I reflect on what resilience means to me, I envision similarities with the five-Cs model described by the Forum for Youth Investment.[1] The model includes competence, confidence, connection, character, and contribution as measurable and supportable tenets in building a strong adolescent mind. I first heard about this model at a conference of the American Academy of Pediatrics in Seattle in 2004; others have since modified the model to include coping and control.[2]

While we recognize the importance of these areas in the mental well-being of children and teens, there is overlap with how we maintain our mental health as physicians. In my view, no amount of yoga will fix us. No amount of self-reflection or meditation will fix a broken system. I do not intend to belittle the need for self-care and avoidance of maladaptive coping strategies, such as substance use, but I believe true resilience is more complicated.

Ethics are foundational to our training as physicians. We care. This is the reason we studied medicine, and why we show up to work every day. We value empathy and sympathy in our work. The inability to provide necessary services in the manner required to meet patient needs and expectations was already a major contributor to burnout prior to the pandemic.

As the pandemic took hold, there was a shift in our model of care. This shift saw us prioritizing certain treatments and certain conditions above others to ensure the broader system continued to meet critical needs. We were able to shift our ethical desire to optimally treat everyone who needed care because of our pre-existing connections to our patients and to each other. Physicians understood that sacrifices across the board were necessary to save lives. This thought process lessened the sense of helplessness we may have felt in the face of an overwhelming crisis.

Physicians understood that sacrifices across the board were necessary to save lives.

We are now finding our way forward, catching up on assessments and treatments that were not prioritized. To remain resilient, I propose that we follow similar collective thinking and planning processes to ensure we cope collectively.

As physicians, we want to contribute our expertise to ensure our health care system is sustainable. Our governing bodies must consider the physician voice and experience in this process if we are to maintain resilient. We physicians understand where efficiencies exist, and where they are lacking. Prior to the pandemic, we may have felt we lacked a sense of control or influence over many areas of practice. Pandemic planning and implementation brought meaningful consultation with all physicians, both leaders and those on the front line, to build capacity in services to address COVID-19 patients.

Examples abound, including streamlined emergency room assessments, COVID-19 wards, community assessment clinics, and rapid adaption of virtual assessment and treatment options. It was this sense of professional contribution and control that energized us. It drove us forward through unprecedented long hours spent planning, redesigning, and implementing models of care and system access and flow that allowed us to meet patient needs. We spent hours evaluating processes, risks, and successes. Keeping this trust and collaboration with our governing bodies will be our next challenge.

The pandemic disrupted additional five-C areas for physicians. Our knowledge and expertise were tested. We spent considerable time and energy building our confidence and competence, individually and collectively. Endless simulation development and training reinforced optimal practice, PPE use, and other safety protocols.

Individual and team research and communication across all avenues, including email, WhatsApp, Facebook, and Twitter, ensured we leveraged our experiences across jurisdictions. I would argue that our profession has never been connected more or over as many channels. Innovation and adaptation in some areas were exponential. Practices found to be successful across the globe could be introduced and tested here. This global connection, our participation, and our contributions coalesced into better collaborative treatment and coping strategies. We were not alone in our work. Governing bodies sought our assistance and guidance, often daily. Our voices carried a greater weight; we felt that the value of our work countered the weight of our responsibilities.

Throughout these trying times, we recognized and emphasized the need to stay connected with our families, our environment, and our society to maintain our own emotional reserves. We had to practise establishing limits and downtime to process our experiences. Perhaps in this case, self-reflection and meditation

do have a role in addressing our psychological resilience after all.

While self-care has its place, I maintain that a systemic approach is needed to truly address resilience and avoid burnout. Perhaps allowing physicians to incorporate key aspects of the five-Cs model into the design and delivery of our health care services would provide the most benefit to our profession, our patients, and our health care system. We can build on our profession's strong character, caring attitude, confidence, and connection. Our health care system leaders could continue encouraging physicians to contribute their expertise, take on aspects of system management, and develop a shared sense of control over our working environments. This could lead to greater individual and systemic resilience throughout the current crisis, and those to come.

At the end of the SARS-CoV-2 pandemic, I hope to reflect positively on the shared responsibility that was necessary to sustain strength at all levels, to look back on our ability to adapt, and to ensure we met the needs of patients, providers, and the system through a five-Cs lens.

I hope that, together, we will have built a stronger collective that promotes and ensures resilience in our new models of health care. Each of us will have had a personal, local, and global role to play in meeting this vision. I commit to reflecting on the steps needed to maintain my personal health, the health of my colleagues, and my connections to the health care system. I know I am not unique, nor am I alone, in amplifying my confidence, character, connections, competence, and contributions—and let me add caring—to achieve better control, coping, and resilience. ■

—Kathleen Ross, MD
Doctors of BC President

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Letters to the editor

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Praise for cover art

Kudos to Jerry Wong of Peaceful Warrior Arts for the continued outstanding *BCMJ* cover art.

—Gwen Warren, MD
White Rock

Malignant bone tumors in children: It's hard to miss a zebra

The report by Dhinsa, Mahon, and Strahlendorf in the May issue of the *BCMJ* [2020;62: 130–133] regarding the delays in the early recognition of solitary childhood neoplasms such as osteosarcoma troubled me. The marked delays documented by the authors in their review could have been avoided if more attention had been paid to all the symptoms at initial presentation by the first caregiver, as well as there being a thoughtful and complete physical examination of the patient before any investigations.

Too often modern medical practice counsels one to follow established algorithms and test results rather than old-fashioned question-and-answer patient interviews and direct physical examination. Their report only confirms my suspicion. To me, it always seemed that if you knew the right questions to ask then the correct diagnosis was more likely to be pursued. As well, the accurate physical examination of the musculoskeletal system appears to be a lost art.

The clinical suspicion and recognition of an underlying bone neoplasm as an explanation for persistent limb pain in children is not quite as difficult as their article suggests. Before ordering a plethora of imaging studies, a few typical and characteristic symptoms should be recognized, and a thoughtful physical exam completed. Because too often even academic physicians and paramedical personnel miss the key questions, I offer a few of these clues.

First, a differential diagnosis should be established based on any commonly occurring painful regional problems such as muscular injury, chronic insertional tendinitis, tendon rupture, meniscal injury, Osgood-Schlatter disease, stress fracture, bursitis, etc., then a physical examination of the painful limb completed searching for these diagnoses while recalling basic musculoskeletal anatomy.

If a possible malignancy remains a high contender, then consider the following:

- All children with significant lower limb pain will limp, have difficulty with stairs, and stop running.
- In the upper extremity, bone pain will inhibit strength and limb use.
- All bone malignancies demonstrate pain at rest.
- While this limb pain is always present, at times it may be ignorable.
- The typical pain is dull, aching, centrally within the limb, and poorly localized. It is not superficial.
- The limb is not tender and is not restricted in motion.
- Local redness and heat are never observed.
- Rest alone does not relieve the limb pain.
- Simple analgesics do not relieve the pain.
- A sling or brace or compression bandage is unhelpful.
- Applying heat, massage, stretching, or transcutaneous stimulation does not help.
- Evening pain interferes with achieving an easy sleep.
- Night pain often wakes even a sound sleeper.
- Morning limb pain is noticed upon waking and rising.
- A palpable soft tissue mass is a late and ominous sign.

If you pay attention to the clues and follow the details, an early correct diagnostic outcome is likely to be achieved.

—Richard Dewar, MD, FRCSC
Retired Clinical Associate Professor of Orthopaedic Surgery, University of Calgary, Foothills Hospital and Alberta Children's Hospital

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Can COVID-19 affect the eyes?

Recent research confirms that conjunctivitis can be an ocular sign of COVID-19 and suggests that SARS-CoV-2 may be transmitted through infected tears and conjunctival secretions.

Leilynaz Malekafzali, BSc

ABSTRACT: The primary mode of human-to-human transmission of coronavirus disease 2019 (COVID-19) is through contact with droplets and fomites containing severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2). A few studies have reported conjunctivitis as an ocular sign of COVID-19. Although no studies to date have confirmed ocular transmission of COVID-19, the SARS-CoV-2 nucleotide has been detected in conjunctival specimens using reverse transcription polymerase chain reaction. This finding suggests that COVID-19 may be transmitted through infected tears and conjunctival secretions. Additionally, the eyes may serve as a portal of entry for SARS-CoV-2 when droplets or fomites are transferred from the conjunctiva to the nasopharyngeal space through the lacrimal duct. Precautions are therefore recommended to limit the possibility of ocular transmission of COVID-19.

The coronavirus disease 2019 (COVID-19) pandemic caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) started in the city of Wuhan, China, in December 2019.[1] The virus spread quickly and resulted in 5 404 512 confirmed cases and 343 514 deaths globally by 26 May 2020.[2] Based on previous experience with the SARS 2003 epidemic caused by SARS-CoV-1, the primary mode of human-to-human transmission of COVID-19 is known to be through droplets and fomites.[1] According to the Centers for Disease Control and Prevention (CDC), the incubation period for COVID-19 is between 2 and 14 days.[1] The symptoms of COVID-19 listed by the BC Centre for Disease Control and the World Health Organization are fever, dry cough, sneezing, sore throat, difficulty breathing, and tiredness.[3,4] New reports suggest that ocular manifestations may also be a symptom.

Current research findings

A retrospective case series in Hubei Province, China, found 12 of 38 patients with clinically confirmed COVID-19 (31.6%; 95% CI, 17.5-48.7) had symptoms consistent with conjunctivitis, including chemosis, hyperemia, epiphora, and increased secretion.[5] The 12 patients also had more severe systemic disease such as dyspnea, respiratory failure, shock, and multiple organ dysfunction/failure.[5] Additionally, the 12 patients had higher white blood cell and neutrophil counts and higher levels of lactate dehydrogenase, procalcitonin, and C-reactive protein than patients without ocular symptoms.[5] Taken together, these results suggest that ocular manifestations of COVID-19 mostly appear in patients who have severe pneumonia.[5] Of the 12 patients with ocular manifestations, 11 (91.7%; 95% CI, 61.5-99.8) tested positive for SARS-CoV-2 on reverse transcription polymerase chain reaction (RT-PCR) from nasopharyngeal swabs, and 2 (16.7%) tested positive for SARS-CoV-2 on RT-PCR from both conjunctival and nasopharyngeal swabs.[5] As well, when the conjunctival specimens of patients with COVID-19 were analyzed, a low prevalence of SARS-CoV-2 nucleotide was found (5.2%; 95% CI, 0.6-17.8).[5] The authors concluded "that SARS-CoV-2 might be transmitted through the eye" based on the ability of the virus to invade the conjunctiva.[5]

A retrospective case series . . . found 12 of 38 patients with clinically confirmed COVID-19 . . . had symptoms consistent with conjunctivitis, including chemosis, hyperemia, epiphora, and increased secretion.

In another large study, researchers analyzed the clinical characteristics of 1099 hospitalized patients with laboratory-confirmed COVID-19 in 30 provinces of China.[6] They reported that nine patients (0.8%) had "conjunctival congestion."[6]

In yet another study, researchers analyzed the tear and conjunctival samples of 30 patients with confirmed COVID-19.[7] No viral RNA was detected in samples from 29 patients without conjunctivitis, but it was detected in the sample from one patient with conjunctivitis.[7] The authors concluded that tear and conjunctival secretions were not the transmission route for the COVID-19 patients without conjunctivitis.[7]

In a cross-sectional study of 72 laboratory-confirmed COVID-19 cases, only two patients (2.78%) had conjunctivitis, and viral RNA was found in the ocular discharge of only one patient analyzed with RT-PCR.[8] The patient was a 29-year-old nurse who worked in the emergency department of a hospital in Wuhan, China.[8] Ocular examination of the patient

Ms Malekafzali is a medical student (class of 2023) at the University of British Columbia

This article has been peer reviewed.

revealed watery discharge and conjunctival congestion in both eyes.[8] The possibility of conventional conjunctivitis in this patient was excluded based on the normal corneal epithelium, the quiescent anterior chamber, and the absence of tenderness or enlargement of the preauricular lymph nodes.[8] The patient said she used a medical N95 respirator all the time while working and occasionally worked with a dislocated eye mask touching her eyelids.[8] The findings in this case suggest that exposure of conjunctiva to droplets or fomites containing SARS-CoV-2 may result in ocular disease.[8] Support for this is found in the fact that SARS-CoV-2 enters the host cells through angiotensin-converting enzyme 2 (ACE2) receptors, which are known to be expressed in human cornea and conjunctival tissues.[8] The authors concluded that although conjunctivitis is uncommon in COVID-19 patients in general, occupational exposure of medical staff should be seriously considered due to the high viral load in the hospital environment.[8]

A 2013 review of respiratory viruses that use the eye as a portal of entry provides some support for the ocular transmission of COVID-19.[9] The authors consider how liquid in the eye can be absorbed by the conjunctiva, sclera, or cornea, but is mostly transferred to the nasopharyngeal space through the lacrimal duct.[9] This liquid can then be transferred to the lower respiratory tract or gastrointestinal mucosa.

Additional support for ocular transmission of COVID-19 is provided by more recent research that describes how SARS-CoV-2 uses ACE2 receptors for entry into cells.[10] While ACE2 protein is mostly expressed on lung alveolar epithelial cells and enterocytes of the small intestines, which explains the lower respiratory tract symptoms of COVID-19,[11] it is also expressed in cornea and conjunctiva.[12]

Infection control measures

COVID-19-associated conjunctivitis is indistinguishable from conjunctivitis with other viral causes and can be among the first presenting symptoms before fever or cough.[1,13] The American Academy of Ophthalmology (AAO) therefore recommends confirming patients have no history of respiratory illness, fever, or contact with COVID-19-positive cases in the past 2 to 14 days before each office visit and that all ophthalmologists use mouth and nose protection (i.e., wear an N95 mask or surgical mask) and eye protection (i.e., wear a shield or goggles) when providing care for potentially infected patients.[13]

For ophthalmologic examinations, rooms and instruments should be disinfected after each patient visit based on current CDC recommendations using disinfectants specific to COVID-19, including solutions with at least 70% alcohol and diluted household bleach (5 tablespoons of bleach per gallon of water).[13] Because ophthalmologists work in close proximity to patients during slit lamp examination, protective plastic shields should be installed on slit lamps to reduce the risk of transmission via droplets.[1] The AAO also recommends postponing all elective care and surgeries to reduce the risk of disease transmission.[13]

Finally, COVID-19 should be included in the differential diagnosis for patients presenting with ocular signs or conjunctivitis.[14] Patients should be instructed to avoid touching their eyes, mouth, and nose and to discontinue using contact lenses if conjunctivitis is diagnosed.[14] The AAO advises patients who wear contact lenses to consider switching to glasses during the pandemic to reduce the number of times they touch their eyes.[15]

Summary

Overall, more research is needed to clarify how COVID-19 affects the eyes. No studies to date have confirmed the ocular transmission of SARS-CoV-2.[14] However, conjunctivitis has been seen in some COVID-19 patients. Although SARS-CoV-2 is spread primarily through inhalation of respiratory droplets, infection may result from exposure of the conjunctiva to droplets and fomites. The presence of viral RNA in specimens from conjunctival swabs suggests infected tears and conjunctival may transmit COVID-19, and all precautions should be followed to limit the possibility of ocular transmission. ■

Competing interests

None declared.

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Think twice: Evidence-based opioid sparing approaches to pain management

Physicians should exercise caution when prescribing opioids to treat pain given the current lack of effective tools for assessing a patient's risk of developing opioid use disorder.

ABSTRACT: Many British Columbians have become addicted to opioids as a result of unsafe opioid prescribing and the illicit opioid market. Although prescription opioid use disorder is associated with substantial morbidity and mortality, physicians currently have no way of identifying patients who can safely be prescribed long-term opioid therapy for chronic noncancer pain. A recent systematic review found that screening tools for identifying opioid-naive adult patients at risk of prescription opioid addiction were not particularly useful. Based on this review and a subsequent clinical article, we provide three clinical scenarios in which evidence-based recommendations can be made. While more research is needed, the risk posed by the rapidly evolving opioid overdose epidemic and the proliferation of illicitly manufactured fentanyl analogs warrant reducing the prescribing of opioids for opioid-naive individuals.

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This article has been peer reviewed.

An estimated 115 000 British Columbians have become addicted to opioids (oral communication, Bohdan Nosyk, BC Centre for Excellence in HIV/AIDS, 1 August 2018) as a result of unsafe opioid prescribing and the illicit opioid market. Canadian data on prescription opioid use are dated,[1,2] but recent US data suggest that more than one-third of US adults report prescription opioid use, with substantial numbers reporting misuse and disorders.[3] The BC Centre on Substance Use recently published a systematic review[4] that highlights the need for clinical strategies to reduce the number of new opioid prescriptions for chronic pain in an opioid-naive patient (defined as someone who has never been prescribed opioids or who is not currently taking opioids). The review indicates that the optimal strategy for preventing prescription opioid use disorder (OUD) in BC promotes safer opioid prescribing. A subsequent clinical article[5] provides some examples of how physicians in BC can help patients manage their pain.

A clinical case

A 31-year-old carpenter presents with persistent acute back pain after a fall at work 3 weeks earlier. An MRI of his spine has revealed no abnormalities. Despite the use of physiotherapy and nonsteroidal anti-inflammatories, he reports persistent excruciating pain, particularly when trying to work. He is growing increasingly anxious about not working and asks for low-dose opioid medication. He states that some of his co-workers have been able to return to work after injuries by using opioid medications for pain. His chart states that he has a history of excessive alcohol use but no longer drinks because of "problems in the past." He has no other psychiatric disorders or symptoms and is not taking any medications.

Is there a way to predict this patient's risk of developing OUD if he is prescribed opioids for his persistent acute back pain?

Risks of prescribing opioids

New evidence has raised questions about the benefits of using opioids to treat chronic pain[6,7] and shown how individuals who initially become addicted to prescription opioids may transition to using illicit opioids, including fentanyl.[8] In BC, rates of opioid prescribing and availability are strongly correlated with

rates of opioid overdose death.[9] More than 70% of men and nearly 50% of women in BC who have died of a prescription opioid overdose did not have an active prescription in the 60 days prior to their death.[10] This suggests that there is a significant diversion of prescription opioid medications in the province. More than 80% of people who use heroin say they started with prescription opioids.[11,12] Youth are often introduced to opioid use through diverted prescription opioid medications, which research has shown are incorrectly perceived as being safer than illegal street heroin.[13,14]

Risk assessment tools

Recent Canadian and BC guidelines require clinicians to reach a thorough understanding of a patient's risks prior to prescribing an opioid for pain.[15-17] Similarly, the Alberta Opioid Use Disorder Primary Care Pathway suggests that family physicians "consider [using the] Prescription Opioid Misuse Index (POMI) if [the] patient receives prescription opioids and OUD is suspected."[18] However, strategies used by clinicians to identify patients at high versus low risk of developing OUD have not yet been critically appraised.

To assess these strategies, the BC Centre on Substance Use conducted a systematic review of risk factors and risk prediction tools used to identify patients at risk of developing prescription OUD.[4] Of 1272 studies identified, four high-quality studies evaluating risk factors were analyzed.[19-22] They included 2 888 346 patients and 4470 cases that met the authors' definition of prescription OUD. Although the review identified 31 studies that evaluated risk prediction tools for prescription OUD, only two studies (which examined five tools in total) met the quality standards, and thus were included.[19,21] The review indicated that all available assessment tools for predicting risk of developing prescription OUD, including the most commonly used tools in BC—the Opioid Risk Tool[23] and the POMI,[24] are based on lower-quality studies or demonstrated extremely poor diagnostic performance when test performance was assessed. While a history of opioid or other substance use disorders, certain mental health disorders (e.g., personality disorder, somatoform disorder), and co-prescription of certain psychiatric medications (e.g., atypical antipsychotics) appeared useful, more studies are needed to validate those findings. Also, patients who were given a new prescription for an opioid with a supply for 30 days or more appeared to be at a greater risk of developing prescription OUD than patients who received a supply of opioids for less than 30 days.[22] When patients get to an opioid dose greater than 120 mg morphine equivalents per day, they have a higher risk of developing prescription OUD.[22] Conversely, only the absence of an affective disorder appeared modestly useful for identifying patients who had a lower risk of developing the disorder. No symptoms, signs, or risk factors were amenable to meta-analysis. The lack of high-quality studies suggests that physicians and nurse practitioners currently have no way of identifying patients who can safely be prescribed long-term opioid therapy for noncancer pain. These findings are supported by a growing body of evidence that medication discontinuation increases the risk of adverse opioid-related health care events among those who already receive opioid therapy for chronic pain.[25,26]

Long-term opioid therapy is unlikely to benefit most people with chronic noncancer pain.

Long-term opioid therapy

The body of literature on opioid-based pain therapy is revealing risks to long-term use of opioids. For instance, a 2015 systematic review sponsored by the National Institutes of Health reported a dose-dependent risk of serious harm from long-term opioid therapy,[27] including increased risk of overdose, OUD, fractures, myocardial infarction, and sexual dysfunction. The review also indicated there was insufficient evidence to determine the effectiveness of long-term opioid therapy for improving chronic pain and physical function. A subsequent meta-analysis of 96 randomized controlled trials involving more than 26 000 patients with chronic noncancer pain indicated that opioid medications provided little added value compared with non-opioid alternatives.[6] More specifically, while evidence from high-quality studies showed that opioid use was associated with statistically significant improvements in pain and physical functioning, the improvements were small and the risk of side effects was greater than the risk associated with placebos. Comparing the use of opioids with non-opioid medications showed a similar benefit for pain and physical functioning, but the evidence was from studies that were of low to moderate quality.

Evidence suggests that any benefit of opioid therapy for chronic pain may diminish within weeks.[6] Most opioid trials are limited to 6 weeks or less.[27] To address this, the 12-month Strategies for Prescribing Analgesics Comparative Effectiveness clinical trial with masked outcome assessment compared opioid and non-opioid medication therapy; it showed no additive benefit for using opioids. Opioids were not superior to non-opioid medications for patients with chronic back pain or hip or knee osteoarthritis pain.[7]

Three common clinical scenarios

Recent studies and our clinical experience in the BC opioid overdose epidemic suggest evidence-based recommendations can be made for three common clinical scenarios **[Figure, following page]**.

Patients with chronic pain who are not receiving opioid therapy: Opioid therapy should generally be avoided in opioid-naive patients without cancer or palliative care needs given the limited likelihood of benefit and the considerable evidence of opioid-related harm.[27] Further, clinicians who hope to use the clinical examination to screen for high-risk patients or identify patients able to take opioid analgesics safely should be aware there are no symptoms, signs, or screening tools that appear to be particularly useful, and commonly used screening instruments provide no diagnostic value.[4] Our patient, the carpenter, presented to a physician with persistent pain and anxiety despite several weeks of non-opioid therapy. Overall, the incidence of OUD in the context of pain care is estimated to be 2.8% (range 0.10% to 34.0%).[4] Based on

this incidence rate and the results from the earlier systematic review,[4] none of the carpenter's symptoms or signs are particularly helpful for determining the likelihood of developing prescription OUD, except for his history of alcohol use. A diagnosis of mild alcohol use disorder could be pertinent, for a positive likelihood ratio (LR) range of 6.1 to 17.0, which indicates that if opioids were prescribed he might be at higher risk of developing disordered use (approximately 14.9% to 32.9%). However, since he does not have a psychiatric history and is not on psychiatric medications (positive LR range 2.2 to 5.8), his risk of developing OUD may be somewhat limited (6.0% to 14.3%). Given the extremely broad range of estimates of risk, as well as the limited ability of screening tools to discern high-risk from low-risk patients, it would be at the clinician's discretion whether a trial of opioid-based therapy would be appropriate. Recent literature has suggested there are limited benefits of opioid-based therapy, so this must be balanced against the risks of OUD and other harm, including overdose.[7]

Patients with chronic pain who are receiving opioid therapy: An approach involving individualized care must be employed for patients already using opioids.[27] While the literature suggests that there is potential for improved pain relief and physical functioning with slow opioid withdrawal, new trials are needed to best guide this approach.[28] A decision to withhold opioid therapies must be balanced against the serious risks of exacerbating pain, contributing to opioid withdrawal syndrome, encouraging a transition to street opioid use, and other harms.[25] For instance, a recent study of Medicaid beneficiaries in Vermont who filled daily high-dose opioid prescriptions for at least 90 consecutive days and subsequently discontinued these prescriptions showed that 49% of the beneficiaries had an opioid-related adverse event, defined as a hospitalization or an emergency department visit with a primary or secondary diagnosis of opioid poisoning or substance use disorder.[25] At the same time, given the prevalence of and the risks associated with prescription opioid diversion and misuse,[3] the use of opioid agonist therapy should be increasingly considered when OUD emerges (e.g., a problematic pattern of opioid use leading to clinically significant impairment or distress). Support for this approach is provided by the proven benefits of opioid agonist therapy in the prescription OUD context and evidence that buprenorphine/naloxone may provide analgesia similar to that of full opioid agonists. This approach will require that efforts be redoubled to overcome barriers to opioid agonist therapy, including improving access to OUD care in primary care.[29]

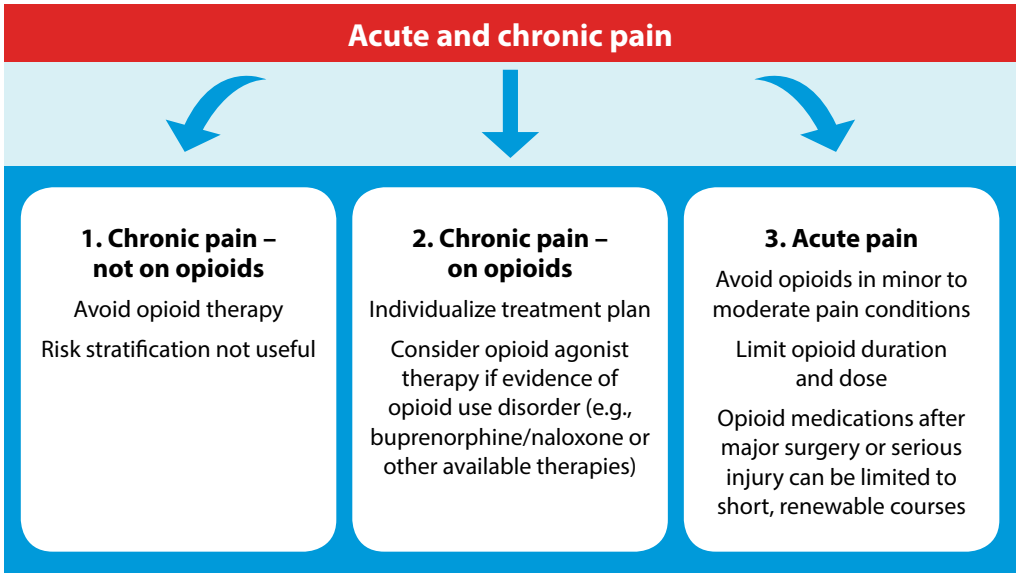

FIGURE. Evidence-based opioid sparing pain management strategy. *Source: Adapted from Wood and colleagues.*[5]

Patients with acute pain: Non-opioid therapy should be favored in those patients with minor to moderate acute pain. This is recommended because most chronic pain initially presents as minor to moderate acute pain, the benefits of opioid therapy may diminish rather quickly, and prolonged prescription opioid use increases the risk of developing prescription OUD. While there are benefits to opioid use for severe acute pain, it is important that the dose and duration be limited to short (e.g., less than 1 week), renewable (if necessary) courses.

Finally, physicians urgently need to be educated about both the risks of opioid-based therapy and the lack of benefits in many cases. In an effort to reduce inappropriate opioid prescriptions for opioid-naive patients in the province, the Therapeutics Initiative has collaborated with the BC Centre on Substance Use on a tool that provides prescribing portraits to physicians (www.ti.ubc.ca/portrait).[30]

Conclusions

While more research is still needed, recent studies and clinical experience suggest that reducing opioid prescribing for opioid-naive individuals is critical for improving public health and safety. There is currently no way to identify patients who can safely be prescribed long-term opioid therapy for noncancer pain. Physicians need to think twice, exercise caution, and generally avoid making assumptions about a patient's risk of developing prescription opioid use disorder. ■

Acknowledgments

This research was undertaken, in part, thanks to funding from the Canada Research Chairs Program through a Tier 1 Canada Research Chair in Addiction Medicine, which supports Dr Evan Wood. This project has received funding from the European Union's Horizon 2020 research and innovation program under the Marie Skłodowska-Curie grant agreement No 701698, and Canadian Institutes of Health Research (165004). We thank Michee-Ana Hamilton, Kevin Hollett, Emily Wagner, Jessica Bright, Peter Vann, and Deborah Graham for assistance with figure preparation and editing. A shorter version of this article appeared in the *Journal of the American Medical Association* 2019;322:1912–1913.

Competing interests

None declared.

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There is no valid tool or valid way to identify patients at low risk for opioid use disorder when starting opioids.

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Child abuse and neglect in the COVID-19 era: A primer for front-line physicians in British Columbia

Because physicians continue to interact with patients during the COVID-19 pandemic, they are uniquely positioned to identify vulnerable children, provide support to children and their caregivers, and report suspected cases of maltreatment.

ABSTRACT: Children are widely recognized as a vulnerable population during disasters and emergencies. In BC there are growing concerns that children may be at higher risk of abuse and neglect as a consequence of the current COVID-19 pandemic and the public health measures to limit its spread. Increased family and financial stress, disrupted routines, and lack of access to community supports can all contribute to child maltreatment. At the same time, physical distancing has restricted contact between children and the protective adults, such as teachers, who most commonly report cases of suspected child maltreatment. Despite the pandemic, physicians continue to interact with children and families and are uniquely situated to identify cases of suspected child maltreatment. All physicians have a role to play in ensuring the safety and protection of children. Specific approaches to clinical practice in the pandemic era and resources adapted for the pandemic can help physicians assess risk of child maltreatment, support children and families, and recognize and respond to child abuse and neglect.

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This article has been peer reviewed.

Children are widely recognized as a vulnerable population during disasters and public health emergencies such as pandemics.[1,2] Despite this, their needs are often overlooked.[3] Emerging data from the ongoing pandemic caused by SARS-CoV-2, the causal agent of the acute respiratory distress syndrome COVID-19, suggest that severe illness in children is uncommon and mortality is rare.[4-6] However, the nature and extent of secondary effects of the pandemic on children are not yet well established.

Pandemics and child maltreatment

Historically, one serious consequence of pandemics has been an increased risk of child maltreatment, including physical abuse, sexual abuse, emotional abuse, neglect, and exposure to family violence.[7] Child abuse is a leading cause of child death, and child maltreatment can have long-term effects on child health and development.[8,9] At baseline, maltreatment is a common experience among Canadian children, with up to 33% of Canadians reporting some experience of maltreatment before age 15 years.[10] It is widely recognized that these numbers likely underestimate the prevalence of maltreatment.[11]

Community mitigation measures designed to limit the rapid spread of infectious disease may lead to physical and social isolation, meaning that families may have less contact with adults outside their home environment, including teachers, physicians, and child welfare workers. These adults typically provide support and protection for vulnerable children and are often the first to recognize and report suspected child maltreatment.[12] While many of these professionals are struggling to reach children in a meaningful way, physicians are uniquely situated to respond to cases of suspected child maltreatment. They have access to telehealth technology and financial compensation, and have routine cause (i.e., well-child visits) to connect with children and families. Furthermore, physicians often have relationships with families, which make them well positioned to inquire about a child's home environment, offer support, and promote children's overall health, development, and safety.

With the potential for increased risk of child abuse and neglect during the COVID-19 pandemic, practical strategies and resources can help physicians recognize and respond to child maltreatment.

Effect of COVID-19 on child maltreatment risk

There is growing recognition of the increased risk of child abuse and neglect as a result of the COVID-19 pandemic.[13,14] Many factors may contribute to this risk. For perpetrators, parenting stress, financial stress, mental illness, increased substance use, social isolation, and negative interactions with children—all of which may be present and potentially exacerbated during this pandemic—are associated with an increased risk of child abuse and neglect.[15,16]

With more than 11 million cases of COVID-19 reported globally,[17] many families are experiencing the trauma of severe illness or the loss of loved ones, including friends and family members. This trauma is compounded by the cancellation of rituals, such as funerals, and the reduction and suspension of religious gatherings and grief support groups.

Even when families are safe from the infection itself, the public health interventions to control the pandemic have secondary consequences. Widespread restrictions on business activities have immediate financial repercussions and may limit access to extended health care and other benefits. School closures have forced children to stay home with adults who may struggle to care for them. Previous studies of quarantine during pandemics show an increase in symptoms of psychological distress, depression, anxiety, and posttraumatic stress disorder.[18-22]

At the same time, there has been widespread disruption of the communities and services that typically support children and families during times of stress. Physical and social distancing foster isolation and disrupt routines, and may limit access to extended family and other community support networks. Social workers, along with other health professionals, have been advised to minimize nonessential services that involve direct contact with families.[23] While exceptions are made for urgent care, and telephone and video technology allow for client contact, some families may still lack the oversight, assessment, and support they need.

These factors affect the identification and reporting of suspected child maltreatment. Nearly two-thirds of reports of child abuse and neglect are made by professionals who have work-related contact with children, including teachers, law enforcement personnel, social services workers, and health care providers.[24] Most of the remaining reports are made by friends, neighbors, and relatives. Limited access to these groups during the pandemic may result in cases of child maltreatment being missed.

Identifying and addressing child maltreatment

Front-line physicians can take steps to identify cases of child maltreatment and support caregivers and children.

Assess risk

Child maltreatment often occurs in settings where there are no known risk factors. All families—not just the most vulnerable—are at a higher risk of child maltreatment as a result of the current pandemic. Every patient encounter should include an assessment of risk. Recommendations for clinicians[25] include:

- Asking about family stress levels and how caregivers manage stress.
- Asking about the relationship between caregivers.
- Asking about the social supports available to, and used by, the family.
- Asking about alcohol and other substance use, and any recent increase in use.
- Looking for signs of stress, irritability, and depression in caregivers.
- Looking for harsh responses to child behaviors by caregivers.
- Looking for signs of fearfulness and dysregulation in children.
- Looking for evidence of controlling behaviors by one caregiver.

Identify vulnerable children

Every clinical practice includes children who are vulnerable to abuse and neglect. During the pandemic, these children may experience even greater risk of maltreatment and isolation. Physicians should be aware of the risk factors for child maltreatment and pay particular attention to children in households where those risk factors are present. In addition, children who frequently miss scheduled health interventions (e.g., appointments, immunizations) may be a group to target. Physicians can take the initiative to deliberately connect and "check in" with these children—that is, conduct a well-child visit.

Recognize signs of child maltreatment

The first step in helping children who experience maltreatment is learning to recognize the warning signs of abuse and neglect, as outlined in the *BC Handbook for Action on Child Abuse and Neglect*.[26]

Although many physicians are familiar with symptoms and suspected signs of maltreatment, the increased use of telehealth technology and the corresponding decline in in-person visits create new challenges for physicians in assessing children and families. History-taking can be cumbersome without a face-to-face interaction, particularly where language barriers exist. Physical examination may be limited. Physicians should pay special attention to children and caregivers who appear to be in distress, and to the relationship between children and caregivers.

Report suspected child maltreatment

With limited organized programs available for children (e.g., school, day care, sports, community groups), they may have less contact with adults who can report maltreatment, and physicians may thus have a bigger role to play. Health care providers in British Columbia have a legal duty to promptly report concerns about child maltreatment to a child welfare worker. The duty to report overrides the confidential requirements of the physician-patient relationship. Physicians should understand their duty to report maltreatment and know how to contact a child welfare worker, as outlined in the *BC Handbook for Action on Child Abuse and Neglect*.[26] The handbook and other resources related to reporting are available at www2.gov.bc.ca/gov/content/safety/public-safety/protecting-children/reporting-child-abuse.

If a child is in immediate danger, call police (911 or local police). If you think a child or youth under 19 years of age is being abused or neglected, call 1 800 663-9122 any time of the day or night to reach a child welfare worker.

Help caregivers manage stress

Increased stress and mental health issues among caregivers are widely recognized in the context

of the pandemic. Government agencies, civil society organizations, and health care groups have allocated resources and shared advice for helping caregivers cope. Physicians should be aware of specific resources that are relevant in their jurisdictions and know how to refer to them in case of a crisis.

The HealthLink BC website (www.healthlinkbc.ca/mental-health-covid-19) provides a list of resources for children and families, including links to a comprehensive set of virtual mental health supports that are free or inexpensive.

Support child well-being

Now, perhaps more than ever, children and caregivers are facing extreme personal and family stress, social isolation, and financial insecurity, and the absence of typical supports. Everyone can play a role in maintaining the health and well-being of children, families, and communities. Physicians should encourage all patients to support each other through the pandemic. There are many ways that people can help, such as:

- Staying connected to family and friends, and checking in on neighbors and other community members (while taking the proper safety measures).
- Sharing positive news and acts of kindness with your community.
- Connecting families with virtual programming for children—many public institutions and community centres are providing free virtual experiences, including educational resources, games and activities, tours of popular museums and attractions, and physical activities.

Summary

Children are known to be at greater risk of abuse and neglect during public health emergencies such as the current COVID-19 pandemic. Physicians can help ensure the safety of children by using the resources and strategies discussed here to identify and address cases of child maltreatment. ■

Competing interests

None declared.

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Returning youth to sports: Guidance and resources during a pandemic

"So, what have you been doing to keep active during the lockdown?" I asked during our virtual health connection.

She hesitated before she replied, "Well, not too much. Maybe taking the dog out for a walk every day."

She was a 16-year-old girl whom I was following up with for knee pain. When we last spoke in February 2020, she talked about her hectic sport schedule. She had finished a successful season of school basketball and was in the midst of transitioning to her club volleyball season. She was used to near daily training sessions and games. She was one of the 39% of Canadian youth who were likely meeting the physical activity recommendations in the 24-hour movement guidelines for children and youth (> 60 min per day).[1] Now she was struggling to keep active.

With almost all youth sports shut down during the pandemic's peak, it is not surprising that these stories are common. Some youth have tried to take advantage of the less rigorous structure of online classes by going outside more often. Others, despite the best efforts of Provincial Health Officer Dr Bonnie Henry to encourage outdoor activities,[2] have been reluctant to leave their homes due to their own or their parents' fears.

The impacts of prolonged inactivity are multifactorial. Studies of bedrest have shown a progression of muscle atrophy, starting after only a few days. Inactivity will also affect the neuromuscular junction and reduce aerobic capacity.[3] Additionally, there is an impact on an individual's mental health, particularly for those who have tied much of their self-identity to team and sports participation.

How can physicians support youth to keep active and prepare a plan for a safe return to sports?

A good starting point is simply to ask about the physical activities they have (or have not) been able to enjoy lately. Exploring, together, actual and perceived barriers to physical activity is useful.

"Well, at least my knees don't seem to hurt anymore," she explained.

Unsurprisingly, several overuse injuries might settle down with a period of rest. However, some patients have a fear of pain returning with physical activity. Taking the time to prepare for re-entry into sporting activities might include addressing previous issues using physiotherapy or other appropriate interventions.

It is also a useful time to think about injury prevention. Different sports have varying evidence for injury prevention strategies, including neuromuscular training exercises. These could be done as part of preparing to return. Patients and families can be referred to BC's Active & Safe Central website (www.activesafe.ca), which summarizes prevention evidence and strategies for over 50 sports.

Preparation for a return to sport should also include restarting cardiovascular training. Encourage children and youth to safely go outside for a run, bike ride, or even a brisk walk. Strength training also needs to be part of the preparations and can be accomplished at home without any equipment using one's own body weight. High repetition counts, done slowly, will help build back strength lost during inactivity.[4]

In BC, viaSport has been given the mandate to help coordinate sport-specific guidelines for returning local sport organizations.[5] Each sport will have developed its own safety plan that includes risk assessment and mitigation, facility and environmental modifications, and adapting physical and social interactions. A phased approach has been adopted. Transition measures allow for training, while limiting most sport contact and competition. Eventually, this will loosen to allow for small group contacts and possibly regional games.

It's important to remind youth that, as with the resumption of other activities, a return to sport requires participants to take personal responsibility in reporting any COVID-19 symptoms or exposures they may have had. This will help limit exposure of teammates and staff.

By reviewing a plan for return to sport, we can get kids who were active before the pandemic to stay active. Additionally, we can use this opportunity to remind inactive youth to consider getting involved now, as the focus is on training and skills development rather than competition. ■

—Tommy Gerschman, MD, FRCPC, MSc

This article is the opinion of the Athletics and Recreation Committee, a subcommittee of Doctors of BC's Council on Health Promotion, and is not necessarily the opinion of Doctors of BC. This article has not been peer reviewed by the BCMJ *Editorial Board.*

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COVID-19: An accidental catalyst for change in the Canadian health care system

The needle has moved on the historically entrenched issues of national physician licensure, virtual health care, and our sick-at-work culture within weeks of the announcement of a global pandemic. Let's ensure we retain these important advances.

Brandon Tang, MD, MSc, Linghong Linda Zhou, MD

Since COVID-19 was declared a pandemic by the World Health Organization, each day has come with new announcements of measures to contain its spread. One by one, universities and schools, businesses, and even our Canadian borders have closed in the spirit of public health and safety. In the midst of these changes, the strength and anticipated strain on our health care system have become a national focus. But the health system has responded expeditiously—within a matter of weeks, the needle has moved on historically entrenched issues including national physician licensure, virtual health care, and our sick-at-work culture. Though certainly a disruptive and unwelcome force, the pandemic has served as a powerful catalyst for change in the Canadian health care system.

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This article has been peer reviewed.

National physician licensure and physician mobility

"Flatten the curve" became a household phrase in the early days of the pandemic, referring to the need to keep the number of infected patients within the limits of our health system's capacity. However, given COVID-19's exponential rate of spread, indifference to national borders, and the disproportionate risk of infection in health care workers,[1] it is clear that our physician workforce will face tremendous strain. Compounded by the fact that at the time of writing over three-quarters of confirmed cases in Canada had occurred in only three provinces,[2] there may be a need for physician deployment and redistribution to areas where the need is greatest.

Under existing systems of physician licensure, redistribution of physicians is not possible. Each of Canada's provinces and territories has unique physician licensing requirements, documentation, and fees,[3] despite licensing exams being national. For physicians, this means that in order to care for patients in other jurisdictions, they must secure additional licences through a costly and time-consuming administrative process.[4] For patients, especially those in Canada's rural and remote areas, this reduces access to physician care.

Although there has been long-standing advocacy for national physician licensure in Canada, the issue has remained unresolved despite overwhelming support from patients,[5] physicians,[6] and medical organizations.[7] However, after COVID-19 re-exposed an enduring need for increased physician mobility to improve access to care, provincial and territorial medical regulators have temporarily agreed to issue fast-tracked emergency licences that enable physicians to provide care across multiple Canadian jurisdictions.[8,9] In line with this, the Canadian Medical Protective Association has allowed its medical-legal protection to extend beyond a physician's typical province or territory of work.[9]

This has been a laudable and agile response to COVID-19, but licensing barriers to physician mobility and access to care should not be rebuilt after the pandemic. Fast-track and portability agreements are valuable stepping stones,[10] but neither offers the same degree of provider mobility and administrative efficiency as national physician licensure. COVID-19 sparked the emergence of policies to better align physician care with patient needs, but even after the pandemic we can continue to take steps toward establishing national licensure as a durable, sustainable solution to improve access to care.

Adoption of virtual care

Virtual care has not yet become routine in Canada, despite its potential to offer timely access to care, the availability of supportive technology, and growing public interest.[11] However, by simultaneously demanding physical distancing and increased access to care, COVID-19 has

unveiled virtual technology as a cornerstone of care.[12] Moreover, by facilitating rapid adoption of virtual care, the pandemic response is inadvertently laying the groundwork for widespread uptake of virtual care, both now and in the future. In particular, COVID-19 has catalyzed progress on three fundamental barriers to scaling up virtual care in Canada: licensure restrictions, compensation for virtual care, and lack of interoperability and digital infrastructure.[13]

National licensure and the adoption of virtual care go hand in hand; allowing physicians to practise in multiple jurisdictions extends the reach of virtual care beyond provincial and territorial borders, thereby promoting access to care in rural and remote areas nationally. Secondly, several Canadian provinces,[14,15] including British Columbia, have responded to COVID-19 by expanding virtual care billing codes as an incentive to this medium of care. Whereas previous billing codes were limited to virtual care through particular mediums or platforms, these expanded codes allow the use of more flexible technologies such as telephone or videoconferencing. Lastly, while there is no quick solution to improving digital infrastructure, it is reasonable to believe that widespread adoption of virtual care will create momentum and increased investment in these tools both during and after the pandemic.

Sick-at-work policies and culture

While doctors all know that staying home when sick will protect us, our colleagues, and our patients, this is not yet a universal practice for many reasons, ranging from cultural to financial. Within medicine, the hidden culture that discourages the use of sick days starts early in medical training.[16] Unfortunately, as a medical student or resident, it was not unusual to hear variations on the old adage, "If you're not too sick to be a patient in the hospital, then you're not too sick to be working in the hospital." Within this deep-rooted culture of feeling guilty, weak, and judged for taking sick days, it is not surprising to find that physicians admit to working while sick, putting themselves in contact with vulnerable populations.[17]

In a matter of weeks, however, COVID-19 shifted this discourse. Those in the medical field have been flooded with messages from our leaders and administrators telling us to stay home if symptomatic or at high risk. Outside the medical community, we are normalizing—even celebrating—those who self-isolate in support of public protection. This new culture has also been supported by progressive public policy; for example, medical organizations are urging employers to abandon the practice of asking for sick notes,[18] public health offices are offering a general sick note to be used by anyone who fulfills its criteria,[19] and provincial governments are changing labor laws for employees to take sick leave.[20]

When the dust settles, these changes should be transformed into sustainable solutions.

While these policy and cultural changes emerged during the pandemic, they help reverse decades of dogma and should remain permanent. There is no better time than now to improve our national sick-at-work culture and advocate for supportive policy changes such as paid sick leave legislation and sick leave employment protection. It is unfortunate that we cannot always rely on individual employers to do the right thing; we need enforceable legislation to support our public duty to stay home when sick. We hope the new norms of physical distancing and self-quarantine being accepted and celebrated represent a turning point for our sick-at-work culture within workplace communities, including health care.

Conclusion

COVID-19 is perhaps the greatest public health challenge in recent human history, with the full force of the pandemic yet to be felt in Canada. The gravity of the situation has pulled an extraordinary response from our health care system; enormous strides have been taken on historically entrenched issues including national physician licensure, virtual care, and our sick-at-work culture. While progress on these issues emerged as an important response to the COVID-19 pandemic, the way in which it is maintained will have a lasting impact on our post-pandemic Canadian health care system. When the dust settles, these changes should be transformed into sustainable solutions. There is opportunity to be found in adversity. ■

Competing interests

Dr Tang previously served as a committee co-chair for Resident Doctors of Canada (RDoC), which included overseeing an advocacy project for national licensure. He later served as a member of the RDoC National Licensure Project Team. In that capacity, he received funding from RDoC to present this advocacy work at academic conferences.

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References continued on page 246

Educational purgatory: Medical education in the era of COVID-19

The global pandemic's effect on medical students varies depending on their year of study—some are relatively unaffected, some are floating in educational limbo, and some are encountering serious challenges to their educational experience.

Justin Fong, BSc, Tien Tina Lu, BSc

ABSTRACT: Medical education and technological adaptations in the time of COVID-19 affect medical students at all levels of training, though in different ways. First- and second-year students have fully transitioned to online learning with minimal disruption. Third-year students are likely the most affected due to major restructuring of their curriculum and the sudden halt in clinical activities on core rotations that may be critical to their residency choice. Fourth-year students' medical school education component stands to be least affected; however, disruptions to their training will extend into their first year of residency. Technological adaptations will likely play a larger role in medical education and practice in the months ahead.

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This article has been peer reviewed.

Large-scale public health crises offer unique challenges in adaptive practices. Medical education in the time of the COVID-19 pandemic is no exception. SARS in 2003 is one of the most recent examples where important lessons were learned in preparing medical schools for potential disruptions. In Hong Kong medical schools, faculty responded with flexibility in their curricula, planning four potential academic structures for various scenarios in the uncertain time.[1] Authors in the UK commented on selecting medical student applicants who had a strong baseline of professionalism, who could later be taught strategies to handle crises without faltering when they became physicians.[2] Canadian medical schools recognized a need for curricular flexibility to allow for unforeseeable changes to strict deadlines and a need to incorporate a degree of redundancy so that students continue to graduate with the complete set of competencies, even in the event of reduced curricular time.[3]

First- and second-year medical students

Local response has included adapting the entire preclinical education, which is classically classroom-based, into an online format; lectures are recorded to be delivered remotely and small-group sessions are conducted through videoconferencing technologies. Clinical sessions for physical exam skills, which are a foundational component of medical education, have been cancelled or, in some medical schools, converted to online with feedback from preceptors conducted over video calls.[4] For some students, this abrupt transition is a source of stress, while for others who prefer and have already been engaging in remote learning, these changes have been minimally disruptive.[4] A recent systematic review by Pei and Wu suggests online learning is at least comparable to traditional teaching methods in terms of test score outcomes.[5] The authors note that more favorable outcomes for online learning

were seen if student engagement was high. Another systematic review by Looyestyn and colleagues proposes gamification as a strategy to temporarily increase student engagement with online teaching, which may augment its intended effect. Gamification refers to the use of video game design elements in nongame settings to incorporate feelings of enjoyment and external reward, thus increasing student motivation to engage.[6] Studies included in the Looyestyn review used gamification elements such as awarding points for correct answers, having leaderboards to incite healthy competition between students, or awarding badges and trophies. Although the effects of gamification on student motivation were short-lived, this may be a method to maximize educational engagement in quarantine settings.

Third-year medical students

For clinical clerks, the third year of medical training involves the radical transition from classroom to practical learning on hospital wards, in operating rooms, and in outpatient clinics. Because of COVID-19, these avenues of direct patient care came to a complete halt in mid-March, with no defined return date. As a result of the imposed educational limbo, curricula have been rearranged to place nonclinical scholarly activities earlier, while students are independently leading initiatives to substitute lost clinical learning experiences.[7]

The clinical clerk role during an infectious disease pandemic poses a unique problem: medical students are an added vector of viral transmission in clinical settings, as well as being nonessential workers. They consume resources, namely personal protective equipment (PPE) and nasopharyngeal swab testing meant for essential hospital personnel.[8] Additionally, students in clinical settings during a pandemic endanger their own health, safety, and education. Beyond the obvious risk of infectious exposure, students may find themselves in unsafe situations and may take on potentially harmful tasks in order to impress preceptors who are too busy to ensure strict adherence to infection control precautions.[8] These preceptors have a significant impact on the students' letters of recommendation, residency applications, and success of matching. Students may also be limited to clinical learning focused on viral illness, which may be less helpful to the majority of students who will be pursuing fields outside of infectious disease and public health.[8]

Third-year medical students also face a pressing challenge in that the spring, which coincides with the last quarter of their clerkship year, is a critical period for completing core rotations and making elective choices that will ultimately shape their final residency match.[9] This is even more pertinent for specialities that are not mandatory rotations during the core year. Elective time is not only an important opportunity for students to develop interest in a field they may wish to apply for, but also a way for them to discover specific sites and cities they envision themselves training in for their residency, which ranges from a 2- to 6-year commitment.[9] It is also the sole opportunity for programs to assess prospective residents and provide letters of recommendation, which are important to students' getting interviews. If elective time is sacrificed to make up lost core-rotation time, specialties that students may not have seriously considered due to lack of exposure to the field may potentially lose out on applicants.[9]

The abrupt switch to online learning to fulfill curricular goals, coupled with rapid development of new learning technologies, will likely become the norm.

Finally, significant restructuring of curricula for third-year medical students will likely result in delayed interview dates, compressed interview and program ranking periods, and possibly even delayed Match Day and the start of residency itself.[9] The Association of Faculties of Medicine of Canada is considering converting the Canadian Resident Matching Service (CaRMS) interview process from an in-person to an online format. Together with the cancellation of out-of-province electives due to COVID-19, this may be a disadvantage to students who are more comfortable with in-person interviews and result in biases toward the in-province applicants whom specialty programs are already familiar with from core rotations and in-province electives.[10]

Conversely, it may be argued that pandemics offer a rare opportunity to learn principles of ethics, policymaking, and resource allocation in a rapid and meaningful way.[7] Contributing directly to patient care in crisis situations may strengthen students' identity in altruism and duty to society, clarifying that there are inherent risks involved with the profession.[7]

Because of missed clinical learning opportunities, the effects of prolonged suspension due to the pandemic may have a profound impact on the competencies, or at the very least the confidence, of the incoming 2021 residents. Most senior medical students recognize this and are seeking opportunities to contribute in ways that maintain clinical skills while limiting risk to personal and public health. Medical students across Canada have been staffing phone lines to disseminate COVID-19 information and test results, involved in contact tracing, championing public health awareness initiatives, gathering up-to-date clinical data and recommendations for providers, obtaining PPE donations, supporting front-line health care workers by delivering groceries and offering babysitting services, phoning senior citizens who currently need extra social supports, and hosting activities online to maintain a sense of community and connectedness.[11]

Fourth-year medical students

For Canadian medical programs delivered in a 4-year format, final-year students' medical school education is perhaps the least affected, given that the sudden withdrawal from clinical duties occurred just after their match and in the middle of their last elective of medical school, which has no bearing on their matched residency program. This may not be the case for 3-year programs like those at the University of Calgary and McMaster University, which may have had core rotations, rather than electives, suspended. At the time of writing, there is no anticipated delay to the start of the 2020 cohort's residency training,[12] which typically begins each July.

However, the impact of COVID-19 on their year will bleed into the first year of residency, which is notorious for being one of the most challenging years in all of medical training. The oral component of their spring 2020 certification exams has since been canceled, and the Medical Council of Canada Qualifying Examination Part 1 will be postponed until September this year or possibly later.[13] Those who do not pass will have to juggle rewriting their exams while contending with the grueling demands of their first year in residency.

Looking forward

Medical education will undoubtedly be changed after the COVID-19 pandemic. The abrupt switch to online learning to fulfill curricular goals, coupled with rapid development of new learning technologies, will likely become the norm.[14] There will be a need to supplement traditional medical education with remote learning due to increased demand for clinical experiences as more students across multiple years are accommodated within a limited number of clinical placements, and as preceptors become inundated with patients who are currently refraining from coming to see them due to fear of the coronavirus.[15] With the sudden widespread adoption of telehealth driven by COVID-19, medical students who are becoming well versed in technology in medicine may have an advantage when they transition to practice.[4]

However, each advancement warrants evaluation to ensure continued quality of medical education, some of which cannot be adequately learned without direct patient interaction.[4] As of now, the extent to which changes are accepted into curricula depends on a number of unpredictable factors, including economic stability, availability of technologies and professionals to develop them, buy-in from curriculum developers, and acceptability for medical students. Increased flexibility in curricula, research protocols, and clinical approaches will likely be the future.[14] By documenting these lessons as they are learned, we can contribute to an enhanced response to the next public health crisis that challenges medical education. Our ability to rapidly adapt is proving to be a key attribute in these unprecedented times. ■

Competing interests
None declared.

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WorkSafeBC billing tips

As a health care professional, you provide essential services for our community, and WorkSafeBC is committed to supporting you. We want to help you get paid as quickly as possible for treating injured workers. Here you'll find invoicing requirements and tips to ensure accuracy and efficiency for prompt payment of invoices.

Sign up for a billing program or software

Using a billing program provides you with many tools to help your practice. One of the biggest benefits is the ability to electronically submit invoices and reports and receive payment through electronic funds transfer (EFT). All billing programs are required to follow the rules and guidelines listed in the WorkSafeBC Electronic Medical Forms Vendor Specifications for MSP Inbound Records. Subscribing to a billing program allows you to spend more time caring for your patients. There are many billing programs that offer a wide variety of services to help your practice, so browse for the one that fits your budget and needs.

Complete the assignment of payment form

You need to sign an assignment of payment form each time you start work for a different clinic or hospital. If you work at a clinic or a group practice, you need to fill out this form every 5 years. If you work at a diagnostic facility or hospital, you need to submit this form every 2 years. If you own a clinic and you have visiting practitioners, make sure each of them signs this form if you are collecting payments on their behalf.

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

Use a WorkSafeBC invoice template for paper invoices

Although we encourage you to use your billing software to electronically submit invoices, at times you may need to submit a paper invoice to WorkSafeBC for payment. Using Form 11A or another WorkSafeBC invoice template will ensure that all required information is provided for the invoice to be paid. Using your own template or an invoice generated by your billing software may omit information, which can result in delays or nonpayment. Form 11A is available for download at www.worksafebc.com.

Payment Services at WorkSafeBC is available to assist with rejected invoices and provide guidance.

Submit your invoice within 90 days of the date of service

All services must be billed within 90 days of the date of service. This is one of the system checks used by WorkSafeBC to process invoices. If your invoice is rejected, please correct or inquire about your invoice within 90 days of the date of rejection. Payment Services at WorkSafeBC is available to assist with rejected invoices and provide guidance, as long as it is within 90 days of the date of rejection.

Use the customer support resources available

Payment Services at WorkSafeBC is dedicated to helping with failed and incomplete invoices. This department can also help if you need assistance filling out an invoice after you provide service to an injured worker. Contact Payment Services at 604 276-3085 or toll-free at 1 888 422-2228. You may also contact the customer service department of your billing software provider. They are willing to work with you to ensure that your invoices get paid.

Clinical Services at WorkSafeBC is still providing outreach opportunities to anyone in the province. The tips above are part of the billing education provided during our outreach seminars. For more billing tips, please watch for future articles, or arrange a learning opportunity by calling us at 1 855 476-3049 or emailing clinicalservicesevents@worksafebc.com. ■

—Ernest Salcedo
WorkSafeBC Health Care Services Client Representative

Area-based disparities in breast cancer screening participation in British Columbia

Secondary prevention techniques (e.g., screening mammography) allow for early detection of cancer and reduction in mortality at the population level.[1] In Canada, the Canadian Task Force on Preventive Health Care recommends that average-risk women aged 50 to 74 years be screened for breast cancer with mammography every 2 to 3 years.[2] Despite well-documented evidence of the benefits of screening mammography, uptake often falls short of targets.[3]

During a public health emergency such as the one brought about by the COVID-19 pandemic, when preventive services are likely to see a drop in volume, any underlying disparities in screening uptake in various subpopulations may be exacerbated. Internationally, it has been reported that disproportionately low breast cancer screening participation is seen among women experiencing cultural or immigration-related barriers or in medically underserved communities in the United States.[4,5] There is also growing evidence that breast cancer screening rates in Canada vary based on geographic location,[6] demographics,[7,8] and socioeconomic status.[9,10] To provide local insights into screening service use by specific subpopulations in BC, we applied an equity lens to investigate breast cancer screening participation rates among BC women of screening age, examining the data for various geographic, demographic, and socioeconomic levels.

A collaboration of the Provincial Health Services Authority's (PHSA's) programs, the BCCDC's Population and Public Health, and BC Cancer examined the 30-month breast cancer screening participation rate of BC women aged 50 to 69 years using data from the BC Cancer Breast Screening Mammography. We included all records of women aged 50 to 69 with a valid six-digit BC postal code in service provided during the 30-month period between 1 July 2009 and 31 December 2011. By means of postal code translation, we assigned a unique census dissemination area (DA), health service delivery area (HSDA), and health authority (HA) to each record. By linking screening data with DA-level demographic as well as socioeconomic data derived from Census Plus 2011,[11] we examined disparities in breast cancer screening participation among BC women aged 50 to 69 years across HSDAs, across income and education quintiles, and across quintiles of social and material deprivation **[Figure]**. We found that during the study period:

- The breast cancer screening participation rate for BC women aged 50 to 69 years ranged from 40% to 56% across the

Continued on page 249

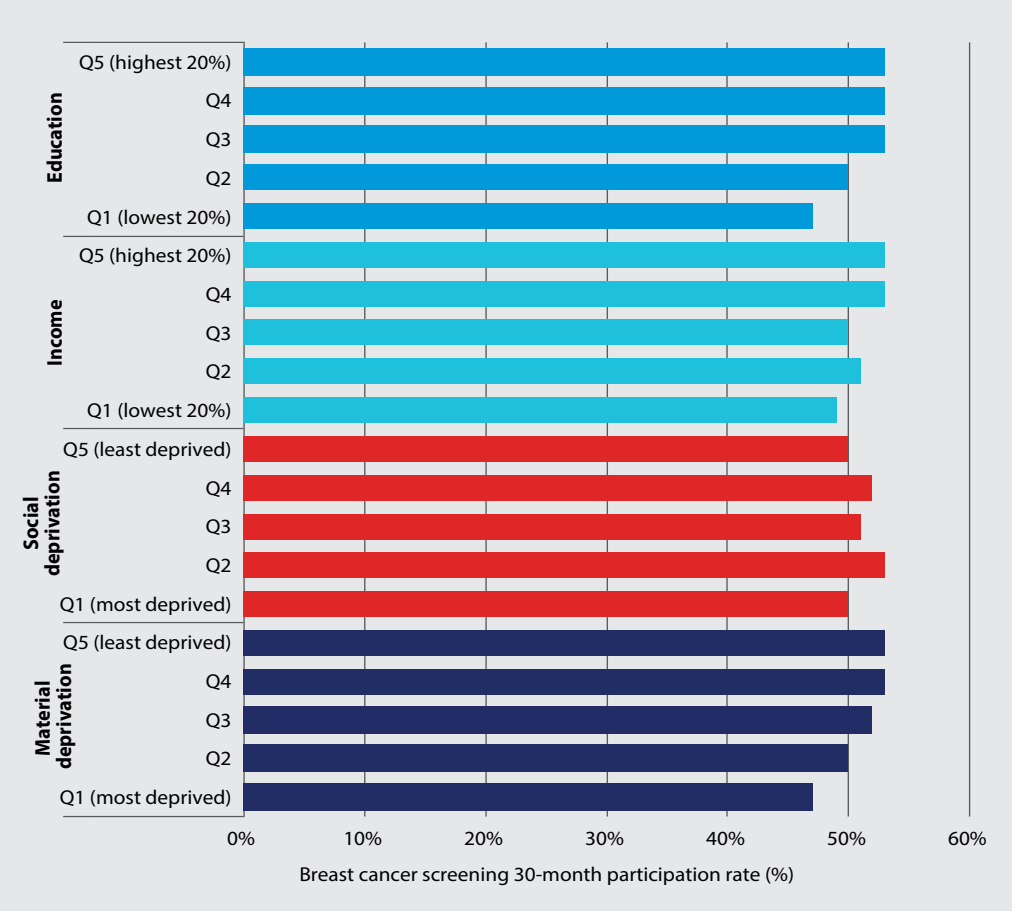

FIGURE. Breast cancer screening 30-month participation rate in BC for women aged 50–69 years by education, income, social deprivation index, and material deprivation index quintiles for the period between 1 July 2009 and 31 December 2011.

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

Resources to support action on race and health inequity

Health inequity arising from personal and systemic bias against Black people, Indigenous people, and people of color is a pressing issue in Canada, but resources for addressing this in Canadian medical practice are limited in number. To help physicians deepen their understanding of race-related health inequity, College librarians have selected resources for a race and health equity reading list (www.cpsbc.ca/files/pdf/Race-and-Health-Equity-Resources-for-Informed-Practice.pdf).

This article is the opinion of the Library of the College of Physicians and Surgeons of BC and has not been peer reviewed by the BCMJ *Editorial Board.*

The collected material was filtered through many lenses: it was curated by librarians with White settler backgrounds, as most librarians in Canada have, and these backgrounds may have affected the curation process. The College Library had not historically prioritized collecting material on racism in health care, so we are committing to addressing that deficiency by expanding the collection of books to support the health of racialized people. Canadian content is limited: disaggregated race-based data in Canada that document health inequalities have not been thoroughly gathered. Accordingly, foreign materials are included on the list to fill the gaps left in Canadian literature. On the other hand, the specifics of the experiences of Black and other racialized peoples in Canada make many of the available resources (e.g., from the USA and UK) insufficient for Canadian practice.

In spite of these limitations, these print and online reading materials have the potential to stimulate personal growth and inspire the vision needed for systemic change. The College Library welcomes suggestions and comments on the reading list (medlib@cpsbca.ca). ■

—Karen MacDonell
Director, Library Services

BCCDC

Continued from page 248

HSDAs. Lowest rates were observed in the Northwest, Northeast, and Kootenay Boundary, and highest rates were observed in Central Vancouver Island and Okanagan.

- Women aged 50 to 69 years in lower education and income groups had lower breast cancer screening participation rates than those of higher education and income levels. The income disparity was consistent with more current published data.[7]
- The most materially deprived groups of women (50 to 69 years) had lower breast cancer screening participation rates compared with the least deprived groups.

Our findings provide important local evidence of disparities in cancer screening participation when we consider demographic, geographic, and socioeconomic factors. This information may help to inform targeted intervention strategies to improve cancer preventive care across BC. ■

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News

We welcome news items of less than 300 words; we may edit them for clarity and length. News items should be emailed to journal@doctorsofbc.ca and must include your mailing address, telephone number, and email address. All writers should disclose any competing interests.

Medical student support for isolated BC residents

The Rural & Isolated Support Endeavour (RISE) is a student-run phone support program of the Society of Rural Physicians of Canada's Student Committee with the goal of emotionally supporting clients who live in rural areas across Canada during the COVID-19 pandemic. The initiative partners medical students with clients in rural communities to provide emotional support and companionship via weekly phone/video-call check-ins

To participate, clients may either ask a health care provider for a referral or self-refer by emailing rise.srpc@gmail.com. Referring health care professionals are asked to complete a Health Care Professional Referral Form, available at https://forms.office.com/Pages/ResponsePage.aspx?id=k4Q9PgRss0Oo4FCyzB1I46LKDEK477NHvi6B76jhP9dUMU9EOUEyN1ZUSDM2VzVSWUpPN0hOQzU0RS4u. Once completed, the submitted form will be available to a volunteer communication and matching lead, who will then match a volunteer with a client. Clients will also be asked to complete a client intake form. Clients must be over 18 years of age to participate.

More information is available in a physician handout, online at https://bit.ly/33V3qg6. RISE is modeled after the Student-Senior Isolation Prevention Partnership with permission.

Patient resource for returning to work

BC Family Doctors has created a resource that provides guidance for patients who have questions about the safety of returning to work. The straightforward decision map helps individuals identify when they should call their employer, when to call WorkSafeBC, and when to call their family doctor with questions and concerns. Access the resource on the BC Family Doctors website at https://bcfamilydocs.ca/return-to-work-questions.

Royal Columbian's new mental health, substance use centre

The new Royal Columbian Hospital Mental Health and Substance Use Wellness Centre increases access to culturally safe mental health and addictions care. The nearly 37 000-square-metre facility includes 75 inpatient beds along with outpatient services, including a mood disorder clinic, expanded clinics for adolescent psychiatry, reproductive psychiatry and psychiatric urgent referral, group therapy, and neuropsychology clinics.

To support people living with substance use challenges, the centre will provide expanded addiction services through a new addictions medicine and substance use clinic. It will also be the new regional site for access to neurostimulation in a electroconvulsive therapy clinic. The centre is the first in the Fraser Health region to offer a specialized unit for seniors dealing with acute depression, anxiety, or psychosis.

The centre was built using a patient-centred design with input from patients, families, psychiatrists, and clinicians to create an inviting, spacious, therapeutic sanctuary featuring plenty of windows and natural light where patients can feel safe, respected, and supported in their recovery. To further support a diverse and culturally safe environment, First Nations artwork will help create a calming and welcoming environment.

Inpatient units include spaces for patients to be social, spaces to spend time alone, a lounge for visiting with family, friends, and other patients, a secure outdoor patio, and an exercise room. All patient rooms are private spaces with en suite bathrooms.

For more information, visit www.fraserhealth.ca/Service-Directory/Locations/New-Westminster/mental-health-and-substance-use-wellness-centre-royal-columbian-hospital.

Stabilization care proposed for youth following an overdose

The BC government has introduced amendments to the Mental Health Act to improve the care and safety of youth under the age of 19 who are experiencing severe problematic substance use by providing short-term involuntary emergency stabilization care following an overdose.

Based on the advice of the BC Children's Hospital and other child and youth advocates, the changes will enable hospitals to keep youth safe immediately following an overdose and are designed to prioritize the best interest of youth and facilitate better connections to voluntary culturally safe care.

Youth living with severe problematic substance use who are admitted to a hospital following a life-threatening overdose can be admitted for stabilization care for up to 48 hours or until their decision-making capacity is restored, for a maximum of 7 days. This short-term emergency care will be provided at hospitals throughout the province where there is an existing designated psychiatric unit or observation unit. Following the period of stabilization care, youth will be connected to supports and services in the community. For more information, visit https://news.gov.bc.ca/releases/2020MMHA0032-001139.

New nurse-practitioner primary care clinics

Residents of Nanaimo and Surrey now have access to primary care clinics led by nurse practitioners. The Province launched Nanaimo's Nexus Primary Care Clinic and Surrey's Axis Primary Care Clinic, in collaboration with the nurses and nurse practitioners along with local health authorities and other partners, to provide team-based primary care services to residents.

Nurse practitioners can work on their own, or with physicians and other health

professionals, to provide care across a person's lifespan. This includes diagnosing and treating illnesses, ordering and interpreting tests, prescribing medications, and performing medical procedures.

The Nanaimo clinic started opening gradually in June 2020, with two full-time nurse practitioners. By mid-September the clinic will have four more nurse practitioners, two registered nurses, a social worker, and mental health clinicians to provide team-based care. Patients can register to be attached to the Surrey clinic as of 10 August; it opens on 8 September. When fully staffed, 10 full-time equivalent health care staff will work at the Surrey clinic, including nurse practitioners, registered nurses, social workers, and mental health clinicians.

New 24/7 addiction medicine clinician support line

A new resource is available for physicians who face challenges treating patients with addictions. The 24/7 Addiction Medicine Clinician Support line, supported by the BC Centre on Substance Use, provides telephone consultation to physicians and other health care providers involved in addiction and substance use care and treatment. Callers are connected with an addiction medicine specialist who can consult and support in screening, assessment, and management of substance use and substance use disorders. Support line staff can be reached at 778 945-7619. For more information, visit www.bccsu.ca/24-7.

Seeking Canadian health care workers for study on moral distress during COVID-19 pandemic

A team from Lawson Health Research Institute is seeking 500 Canadian health care workers to participate in a study on moral distress and psychological well-being during the COVID-19 pandemic. Participants will complete online surveys once every 3 months for a total of 18 months. The goal is to better understand the pandemic's impact on health care workers in order to minimize moral distress and support well-being during future pandemic events.

Moral distress is a form of psychological distress that occurs following an event that conflicts with a person's moral values or standards. Through previous research with military populations, moral distress has been linked to an increased risk of posttraumatic stress disorder (PTSD) and depression.

Participating health care workers will answer questions about moral-ethical dilemmas and symptoms of depression, PTSD, general anxiety, and burnout.

The team hopes that results can be used to cultivate wellness at the outset of future pandemics. This might include guiding emergency preparedness policies and moral-ethical decision-making training modules. They hope that by tracking psychological outcomes over time, they can identify early warning signs of distress that can be targeted with early interventions.

The researchers will also ask questions that explore how the pandemic is affecting health care delivery, such as increased reliance on virtual care appointments, and whether health care workers are satisfied with these changes.

This project is in partnership with the Centre of Excellence on Post Traumatic Stress Disorder (PTSD) and Related Mental Health Conditions. Learn more about the study and access the survey at https://participaid.co/studies/bYE4Ob.

Health Worker Data Alliance: Monitoring the health of health care workers during COVID-19

The Health Worker Data Alliance (HWDA) is a new organization using a free, anonymous survey to collect unbiased data on the PPE needs, physical health, mental health, and risk factors facing the health care workforce to better direct administrators and officials in providing resources to front-line workers. Health workers are 3 times more likely to contract COVID-19, and at present, there is a lack of data across institutions to understand the need and make informed decisions to support the physical and mental well-being of health care workers. By partnering with the HWDA, organizations and institutions can gain access to aggregated data and weekly feedback from the front lines, allowing them to evaluate the response and adapt in real time.

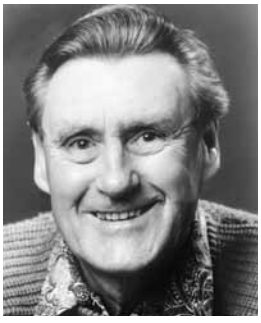
For more information about the alliance, visit www.healthworkerdata.org. If you are a health care worker, take the survey to help examine the emotional, physical, and occupational experiences of health workers as they contend with the challenges of COVID-19 at https://survey.healthworkerdata.org and spread the word. If you are a health care administrator, policymaker, or other stakeholder, register to participate at www.healthworkerdata.org/join.

COVID-19 test, video for children

BC Children's Hospital has created a video to show to children before they undergo a test for COVID-19. It is designed to help them know what to expect and reduce anxiety. The video is included in the BCCDC's COVID-19: Pediatric Testing Guidelines for BC, available at www.bccdc.ca/Health-Professionals-Site/Documents/COVID19_PediatricTestingGuidelines.pdf. The video also shows health care providers across BC how to test children with the hold and distraction methods, and more. For more information, visit www.bcchildrens.ca/about/news-stories/stories/helping-children-through-a-covid-19-test.

Obituaries

We welcome original tributes of less than 300 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 Angus Rae
1929–2020

Dr Angus Ian Rae passed away peacefully on 9 July 2020, in Victoria, British Columbia, at the age of 91. Angus's enthusiasm for life, enquiring mind, wicked sense of humor, and interest in everyone he met were the defining characteristics of his personality.

Angus was born in London, England, on 7 May 1929, the first child of Blodwen Rae (née Williams), a nurse, and Lawrence John Rae, a radiologist. He grew up in Surrey, England, with his siblings, John, Bobbi, and Suzi. Because of bombing raids during World War II, he and his brother were sent to school in North Devon and later to Bishop's Stortford College in Hertfordshire, where he excelled at water polo, rugby, and short-distance running. In 1948 he enrolled in the London Hospital Medical School, and in 1953, he qualified MBBS.

After junior posts in several London hospitals, Angus completed his compulsory 2 years of national service as a first lieutenant in the Royal Army Medical Corps with the 17th Gurkha Infantry Division in Malaya (now Malaysia). On returning to Britain in 1956, he was recalled in October of that year during the Suez Crisis to care for war casualties—those who were transported to the aircraft carrier HMS *Theseus*, moored off Port Said, Egypt. Following this assignment, he returned again to England and did further medical training to qualify as a consultant in the Royal College of Physicians (London), specializing in nephrology.

In 1965, Angus took a research posting in San Francisco. He later worked in Seattle, and then took a position in a hospital run by the Sisters of Providence in Spokane. In 1968, the Sisters of Providence recruited him to set up and run a renal unit at St. Paul's Hospital in Vancouver.

Angus was instrumental in setting up the first program in the province to have patients perform their own hemodialysis at home. With nurses, technologists, and other members of the team, he ran the renal unit for 7 years before taking on his first partner, Dr Clifford Chan-Yan. When Angus retired from St. Paul's Hospital in 1994, the partnership had expanded to seven physicians. Throughout his years in practice in Vancouver, Angus also provided a consulting service to Yukon by visiting Whitehorse every 3 months. He held his last clinic in Whitehorse in 2007. One of the hallmarks of Angus's medical practice was his bedside manner, focusing on patients as individuals, each with their own fascinating life experiences.

Shortly after Angus arrived in Canada, he met and married Dr Ann Skidmore, and they had two daughters, Rowena and Elspeth. Family life included swimming, hiking, bicycling on the Gulf Islands, picking blackberries, and traveling frequently to Virgin Gorda in the British Virgin Islands where Angus and Ann owned a holiday home. Angus also maintained close ties to England, visiting his family and friends annually.

In retirement, Angus pursued several passions: learning to speak Spanish, traveling extensively with Ann, and helping to form the University Clinical Faculty Association in 1998 (now the Doctors of BC Section of Clinical Faculty). He believed passionately in equal partnership between academic researchers and clinical physicians in training the next generation of physicians. His retirement was enriched by the arrival of five grandchildren, Melissa, Luke, Genevieve, Tristan, and Madeleine, whom he entertained with his playful antics and mischievous humor.

Angus spent the last 7 years of his life in Victoria with Ann, enjoying frequent visits with his daughters, sons-in-law, grandchildren, and one remaining sibling, Suzi.

—Ann Skidmore, MBChB, FRCPC
Victoria

—Rowena Rae, MA, PhD
Victoria

—Elspeth Rae, BSc, BEd
Vancouver

Dr Alan Bass
1929–2020

Dr Alan Bass (22 March 1929–12 February 2020) was a renowned and internationally respected specialist and pioneer in sports medicine and arthroscopy.

He was a member of the International Olympic Committee's Medical Commission and head of the Medical Committee for FIFA (the world's governing body for football). He was a founding board member of the International Arthroscopy Association and founding secretary of the Arthroscopy Association of North America (AANA). His specialist qualifications were in physical medicine, and I believe he was the only nonsurgeon to become an active member of AANA. During his career he treated many national and international

athletes, celebrities, and movie stars, including Sean Connery.

Alan's career highlights included being the team doctor (in the dugout with manager Sir Alfred Ramsey) for England's victory over West Germany in the 1966 FIFA World Cup final. That win is considered the greatest sports achievement in British history. Alan is credited with keeping the team at an optimal level of health and fitness during the marathon journey to winning the trophy.

Alan is survived by his wife, Nesta; five children; three grandchildren; and two sisters. He was a great leader in our field, and his contributions will always be remembered.

—Brian Day, MB
Vancouver

Dr William Sterling Haynes
1928–2020

Sterling was born in Edmonton, Alberta, to Elizabeth Sterling, a teacher and actor, and Nelson, a dentist. He completed a BSc in biology/chemistry and an MSc in zoology at the University of Alberta. After a stint as a dam builder and fish farmer in northern Nigeria, Sterling returned to Edmonton where he met his wife, Jessie McKiddie. He followed his older sister, Shirley, into medicine, receiving his MD in 1958.

After an internship at Edmonton's Royal Alexandra Hospital, Sterling completed a residency at Oakland's Kaiser Permanente emergency room. In 1960, he joined the practice of Dr Barney Ringwood and Dr Hugh Atwood in Williams Lake, BC, later partnering with Dr Donald McLean. After studying urology at UBC, Sterling returned to rural family practice, joining the Burris Clinic in Kamloops. In 1980 Sterling moved to Alabama, where he worked for the health department bringing services to underserved patients. In 1988 Sterling retired for the first time, settling in Kelowna. However, his love of medicine got the best of him and he joined WorkSafeBC in Kamloops. He then took up doing locums in rural BC, retiring for the third and final time in 1992.

Sterling was often on call, mentored many young doctors, delivered thousands of babies, and never said no to anyone in need. He also played a mean game of tennis and was an accomplished badminton and squash player. In his 70s, Sterling took up writing, recounting his years practising medicine; many of his works were published in medical journals and by Caitlin Press.

Sterling leaves behind his wife of 64 years, Jessie; his daughters, Elizabeth, Melissa (Steve), Jocelyn (Steve), and Leslie (Randy); two grandchildren, Carson and Rachel; and numerous nieces and nephews.

—Gordon Olson, MD
Kamloops

—Elizabeth Haynes
Calgary

Dr Ali Bouaziz
1930–2020

Dr Ali Bouaziz died quite suddenly but not unexpectedly on 2 March 2020, just a few weeks shy of his 90th year, in his beloved Drummond Drive house in the trees. He had a unique personality and will be missed by all, especially Gloria and her daughter Emmanuel.

Dr Bouaziz was born in Tunisia in 1930 and saw firsthand the atrocities of World War II Nazi occupation, which marred him for life. As a teenager he moved to Paris to complete a medical degree and a fellowship in gastroenterology, never to return to Tunisia or have contact with people there. He was able to support himself in Paris by teaching tennis—a game he had started to play fairly late in youth, but one at which he nevertheless excelled.

One day while pulling his car out of his parking space at the hospital (licence marked MD) he was stopped by a policeman who demanded, "Vos papiers!" After all was found to be in order, the policeman said, "Vous comprenez, Docteur," and Ali knew immediately that he had to leave France and its North African "situation." He wound up in the city hospital system in Queens, New York, in a surgical training program. After completing the program, he found a job as a teaching fellow in French-speaking Quebec City. After a few years in a surgical indentured servant position, which was unfortunately all too common in a past era, he visited Vancouver and knew that there was room for him here.

And he did create quite the room for himself at Mount Saint Joseph Hospital, where he operated every Tuesday and Thursday for many years as a solo-practice general surgeon. There were many medical colleagues of note at that hospital in those days, including his long-time family doctor and sometimes surgical assist, Dr Tony Otto. Other than Ali's surgery practice, his tennis, his tennis clubs, and his friendship with the Molnar family kept him busy.

When I was a freshly minted anesthesiologist, I was impressed with his conservative attitude toward surgical intervention. At the time (1986), I was amazed how, somewhat in opposition to conventional teaching at the academic institutions, he would sit and wait on appendicitis and inflammatory bowel disease until things really were bad. Now, 34 years later, this seems standard practice; he definitely was ahead of his time.

Ali's knowledge of the equity markets, politics, history, and philosophy (especially his fellow North African existentialist and Nobel Prize–winner Albert Camus) was remarkable. As it was for Camus, the world for Ali was absurd in the face of human rationality, but the struggle between the two was the most important thing to continue.

—Mark Elliott, MD, FRCPC
Vancouver

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:** Advertising your CME event several months in advance can help improve attendance; 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. You will be invoiced upon publication. Payment is accepted by Visa or MasterCard on our secure online payment site.

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PSYCHOLOGICAL PPE, PEER SUPPORT BEYOND COVID-19

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In response to physician feedback, the Physician Health Program's online drop-in peer support sessions, established 7 April, are now permanently scheduled for Wednesdays at noon. The weekly sessions are cofacilitated by psychiatrist Dr Jennifer Russel and manager of clinical services Roxanne Joyce and are drop-in with no commitment required. The focus is peer support, not psychiatric care. All participants have the option to join anonymously. To learn more about the sessions and the program, visit www.bcmj.org/news-covid-19/psychological-ppe-peer-support-beyond-covid-19. Email peersupport@physicianhealth.com for the link to join by phone or video.

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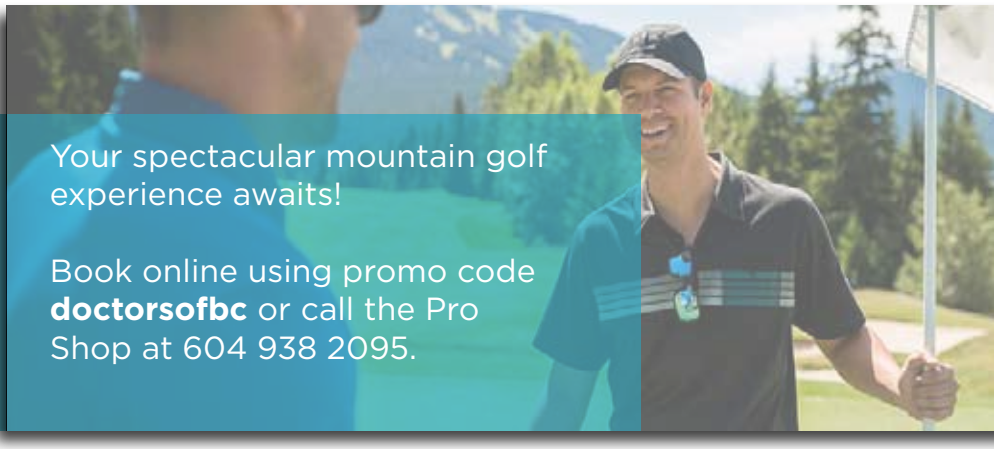

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On reading Richard Preston's *The Hot Zone* during the COVID-19 pandemic

Many of the lessons learned during the Ebola outbreak of 2013 are relevant during the current pandemic.

Kristina Jenei, BSN

"The earth is mounting an immune response against the human species," wrote Richard Preston, author of the 1994 best seller *The Hot Zone: A Terrifying True Story*.[1] The book is a nonfiction account of how researchers, locals, and governments fought one of the deadliest known viruses—the Ebola virus. "Ebola Zaire is a slate-wiper in humans," he explains his 1992 *New Yorker* article, "Crisis in the Hot Zone," on which the book was based.[2] There are many differences between SARS-CoV-2 and the Ebola virus; however, the lessons from the book are even more relevant today as we fight the COVID-19 pandemic.

At the time of writing (early August), it has been approximately 8 months since a pneumonia of unknown cause first appeared in Wuhan City in Hubei Province, China. There are now over 18.6 million cases worldwide and over 700 000 deaths.[3] Billions of people around the globe have been ordered to shelter in place. There are different theories on how we got to this point. Some say this is a virus of zoonotic origin (animal to human), emerging from a wet market in Wuhan. Many viruses come from other mammals, and animal to human spillover has happened before. In 2003, SARS-CoV-1 emerged from a market in Foshan, China. There is irrefutable evidence that influenza originates in birds and pigs and HIV in chimpanzees. The deadly Ebola virus described in *The Hot Zone* may have come from bats. However, the truth is that we do not know. "In biology, nothing is clear, everything is too complicated, everything is a mess, and just when you think you understand something, you peel off a layer and find deeper complications beneath. Nature is anything but simple," Preston writes. Similar to the novel coronavirus, there has never been any definitive evidence to show where Ebola hides. And these hypotheses of etiology will have to wait until after the dust settles and we recover from the first pandemic of our era.

The use of scientific method alone without consideration of contextual factors is not sufficient to control an outbreak.

The Ebola virus erupted after its original discovery in 1976, emerging at the end of 2013 and spreading throughout West Africa, affecting countries such as Guinea, Liberia, and Sierra Leone. Similar to any unanticipated event, several factors complicated a decisive public health response. The virus emerged in highly populated urban areas and ravaged unprepared health facilities, intensified by the spread of misinformation. Efforts were further complicated by traditional and religious practices. The World Health Organization (WHO) reports that nearly 60% of all Ebola virus disease cases in Guinea were linked to traditional burial practices.[4] SARS-CoV-2, too, is changing how the world buries and mourns its loved ones. Families around the world struggle with the rituals of death. They are urged not to hold funerals, not to touch or, at times, even view the deceased.

The use of scientific method alone without consideration of contextual factors is not sufficient to control an outbreak. During the West African Ebola epidemic, researchers found a "notable resistance against prescribed scientific ways of combating the transmission of Ebola virus in some affected communities."[5] They concluded that cultural considerations were just as critical in responses against viruses as was our understanding of the dynamics of transmission. On 5 April 2020, hundreds of members of the Orthodox Jewish community attended a funeral of a rabbi who died from the novel coronavirus in the Borough Park neighbourhood in New York.[6] It is a testament that any phenomenon involving human beings takes us to the edge of scientific knowledge and into a realm where rational human action is mediated through culture, religion, and gender. Religious communities around the world, with long-documented histories of mistrust of scientific institutions, face unique challenges when it comes to controlling the spread of COVID-19. This absence of trust is often assigned to a lack of information, which then triggers a flood of statistics about risk from those very same institutions, along with the

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This article has been peer reviewed.

assumption that humans can make decisions in isolation from other aspects of their lives.

The COVID-19 pandemic has demonstrated that problems such as apathy and mistrust between individuals and their governments might be symptoms of another problem—one that overlaps with a sharp decline in social life and leads to an emphasis on individual interests. David Buchanan, a professor emeritus of community health education at the University of Massachusetts at Amherst, once described this as "the deterioration of our ability to discern values that matter, that enable us to live together decently, and indeed flourish."[7]

This pandemic has been an urgent wake-up call for high-income countries where survival now depends on limiting individual-centred desires for the benefit of others. It is a barometer for our sense of responsibility toward one another in our current political climate. It is no surprise that many governments are struggling to shift citizen behavior. Perhaps upstream of our current crisis is a larger political project that extends beyond the boundaries of health and has roots in the way we structure our lives economically, environmentally, and educationally.

And then there are those who simply cannot afford the price tag of survival. The concept of physical distancing may be an urban dream for those without homes, in shelters, or in remote communities without access to running water or medical treatment. The COVID-19 pandemic has been dubbed "the great equalizer,"[8] but facts say otherwise. Similar to other outbreaks, the consequences of COVID-19 will be felt disproportionately more by vulnerable communities. Early evidence by ProPublica reported that in Milwaukee County (whose population is only 26% Black), African Americans made up 81% of coronavirus-related deaths.[9] This isn't simply because of biology, but due to historical injustices that perpetuate social inequities and preserve a lack of safety nets. And the challenges people face in the Western world pale in comparison to those faced by the millions living in extreme poverty in tightly packed Pakistani neighborhoods or South African townships without running water.[10]

Globalization has made us vulnerable to one of Earth's greatest threats. Budget airlines allow travelers to fly across the world for pennies, entering what Preston describes as "the Network"—the web of air travel routes that connect countries around the globe. As we have experienced with COVID-19, a deadly pathogen can travel to the other side of the world within hours. "A hot virus from the rain forest lives within a 24-hour plane flight from every city on Earth," he explains.

Climate change is a reality as civilization ventures into uncharted territory to exploit natural resources. Smoke rises from the Amazon as illegal mining and logging continue and we encounter the highest rate of deforestation in a decade.[11] The opportunity cost of using up nonrenewable resources is the loss of important ecosystems that play complicated roles in regulating our global climate. These environments are home to animals and insects that carry known human pathogens along with those yet undiscovered. As we destroy these habitats, a natural consequence will be the threat of new and emerging viruses, many of which originate from what Preston describes as "ecologically damaged parts of the Earth," which are being rapidly developed for economic growth.

Unfortunately, economic strength is no match for an invisible pathogen making its way around the world. As did the Ebola outbreaks, COVID-19 has brought into focus the fragmentation and fragility of health care systems. "Chance favors the prepared mind" is a quote Preston repeats throughout his book—one he borrows from French biologist and chemist Louis Pasteur, the man responsible for the world's first vaccines. Perhaps most shocking is how unprepared some political leaders continue to be despite having a wealth of scientific and medical expertise at their disposal, failing to act decisively in the face of a global health emergency. Suffice to say that the combination of a novel infectious virus and a lethal mix of identity politics, misinformation, and fragile health systems has created the perfect storm.

"It's going to disappear," said President Trump on 22 January 2020. But viruses rarely disappear. In fact, only two have (variola virus and rinderpest), thanks to global vaccination campaigns. As Preston argues, the others retreat for a period of time, out of sight like a hunter invisible to its prey, only to re-emerge when we least expect it. "The more one contemplates the idea of viruses, the less they look like parasites and the more they begin to look like predators." ■

Competing interests

None declared.

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