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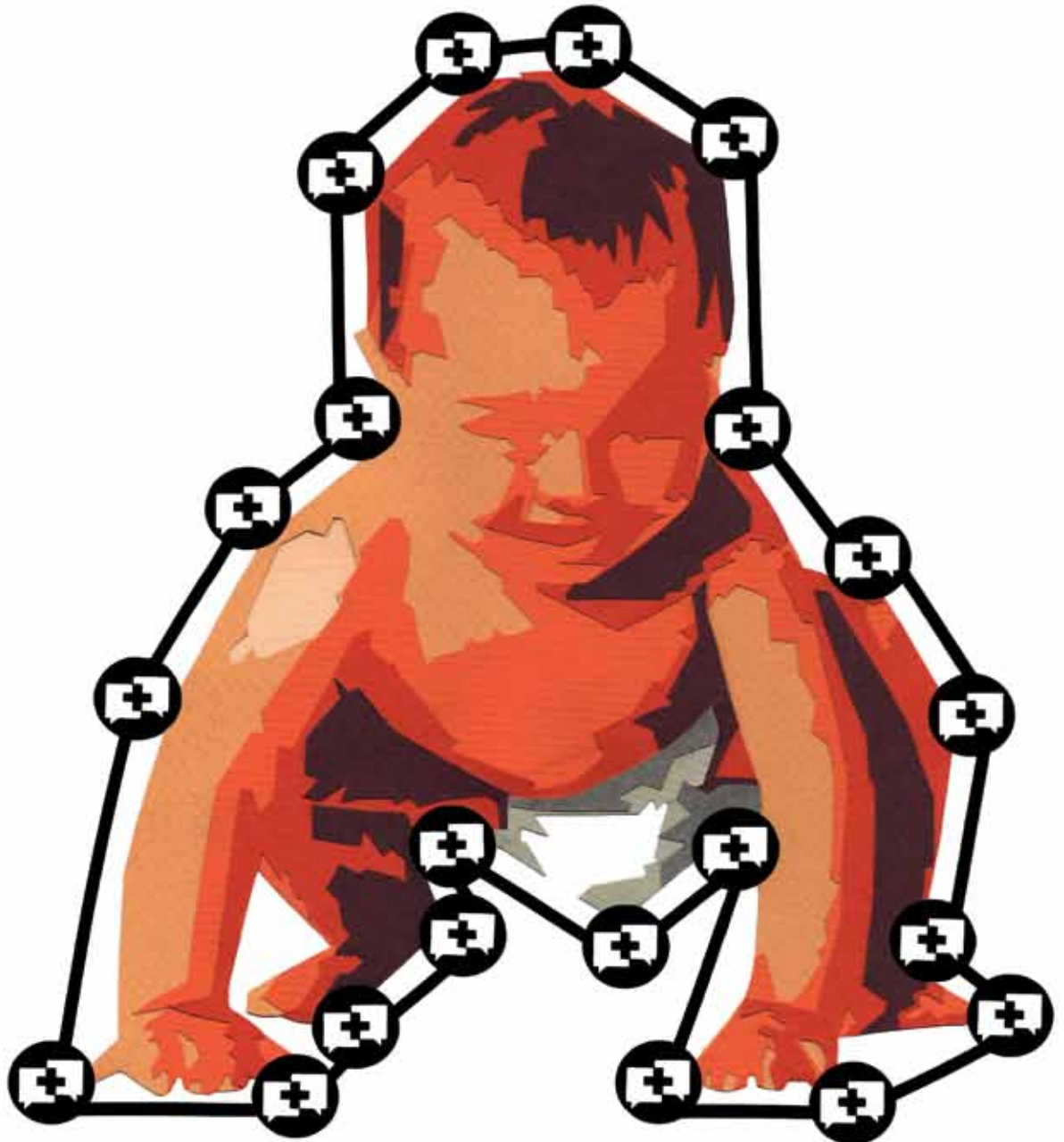
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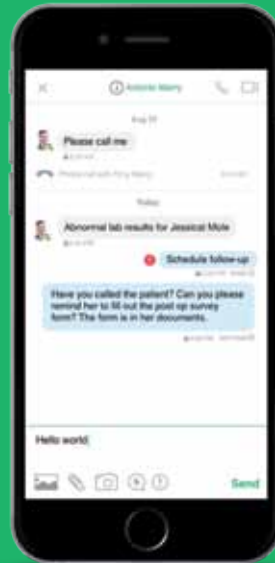
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ON THE COVER

As the nascent BC Emergency Medicine Network took its first steps in late 2017, the network creators carefully evaluated membership and online engagement. Their report and analysis of the first year of operation begins on page 164.

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

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Mistaken

I often log on to my EMR remotely to check results on days I'm not in the office. At one point, I saw a patient in the office and diagnosed him with a minor illness requiring no treatment. Later, I checked my EMR and there in front of me was the sickening truth that I had made a mistake. He had presented to emergency the night before with a life-threatening illness. Much to my relief the patient didn't die, but he could have. I immediately felt guilt, remorse, shame, and self-doubt accompanied by a chest pain and a sinking feeling in my abdomen. I was flooded with negativity. How could I have been so careless? I'm a terrible physician! Why didn't I take the time to listen and make the correct diagnosis? Maybe I should tell all of my patients to find a physician worthy of them? The visceral malaise and cognitive despair was overwhelming. There was no escape from it in the days that followed—it was there when I closed my eyes at night, in the morning when I woke, and all the time in between. It is a struggle to deal with all the emotions associated with such a blunder while carrying on seeing patients.

The experience got me thinking about how physicians deal with mistakes. Doctors are human and, therefore, fated to make errors during their careers. Fortunately, my mistake didn't lead to mortality or significant morbidity, but it could have. My heart goes out to physicians whose misdiagnoses led to significant adverse patient outcomes. I can't imagine the mental and physical stress involved (there by the grace of God go I). I confess that this isn't the first mistake I've made, and I'm sure it won't be my last. However, enough time has passed that I've now reflected on the process I went through and thought I would share it in case it might help someone else.

First, I talked to my wife and colleagues, discussing my error and sharing my feelings. My wife, as always, supported me and reminded me of the many patients who would vouch for my care as a physician. My colleagues listened and shared their stories of medical woe, making me feel less alone. I carefully looked back at my encounter with the patient and thought about where things went wrong and what I could have done differently. What factors were involved, including

mine, the patient's, and those of our therapeutic relationship? I was able to identify and take ownership of my part of the interaction, which led to my misdiagnosis. I then took the difficult step of phoning the patient and apologizing for letting him down. This was not a pleasant process. He was justifiably angry, but I believe this step was necessary for me to move on and continue to be an effective physician. As a result, with the passage of time, I have been able to put this experience in its proper place as an unpleasant memory, but one I have learned from.

The patient has come back to see me in the office, which I'm sure was a big step for him. He related that much of his disappointment and anger was tied up in the thought that he might not be around for his daughters. This was a sobering reminder to me of the lives that can be affected when we make errors in our profession. The challenge is to accept this reality without letting it paralyze us while we do our jobs and hopefully learn from our infrequent mistakes.

—DRR

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Priorities in health politics and policy making

Observing the current federal and provincial political scenes makes one wonder why anyone would become a politician. The same question may be more valid when considering medical politics which, as Dr Pat McGeer implies, is more demanding and less well paid than the real thing.¹ Many of us have tried, without achieving the level of satisfactory outcomes that we hoped for.

Major themes that our national and provincial medical organizations have focused on include physician health and burnout, and increased funding for seniors care and Pharmacare. However, when it comes to policy determinations, we have not followed the usual axioms in medicine, that prevention is better than cure, and that diagnosis and causation should usually precede treatment.

Forty years ago, physician health problems and burnout were not so prevalent. I suggest that this is in large part because, despite often working exhaustive hours, we were extremely happy with our work. We did not experience the frustrations of extreme rationing or the access issues of today. Physicians had an important and respected role in determining health policy.

Who can argue against additional funding for seniors care? Well, as a senior, I can. I received a Gold Care Card from the BC government that afforded me greater health benefits *based on age*. Since two-thirds of Canadians' wealth is held by those over 65, what sense does that make? Why should poor young families subsidize richer seniors? As Canada's population doubled between 1961 and 2017, per capita spending on health rose sixtyfold. Wealthy baby boomers will receive \$4000 more care than their lifetime tax contributions fund. Millennials and iGens will pay \$18000 to \$27000 more in taxes than benefits received. We are imposing long-term debt on our youth.² The emphasis on seniors is misguided. Low-income groups *of all ages* need adequate care and, as happened previously with family allowances, a means test is needed.

Government Pharmacare is another ill-advised initiative. Private insurers (such as not-for-profit Blue Cross) already provide drug coverage for 70% of Canadians. A new costly bureaucracy will mean further rationing of existing services, and perhaps long lineups to see a pharmacist. If Pharmacare (and dentistry, physiotherapy, etc.) are to be added as benefits (and they should be), it should not be through an expanded bureaucracy but through funding or subsidizing premiums for those who lack coverage.

Governments are inefficient at providing services. Stats Canada data show the poor and underprivileged covered by government plans suffer the worst

health access and outcomes. Indigenous health services are a prime example.

Doctors are blamed for systemic weaknesses that governments have built into a rationing-based system. Provincial medical associations are hampered when it comes to confrontation with their health ministry employers, with whom they negotiate their own reimbursement. Collaboration may become a harmful synonym for appeasement. However, in policy making, our national association should not fear confrontation when collaboration fails.

Governments like to assign blame for cost overruns to "overpaid" physicians. I recently paid \$576 for a 30-minute house call to unblock a sewer drain. That's 6 or 7 times the fee for an equivalent family doctor visit; perhaps we need to consider teaching doctors to clear drains. An entity called Choosing Wisely often focuses on inappropriate actions of doctors as a factor in escalating costs. There are good aspects to their work, but in championing it the CMA must protect the rights of patients and physicians. The group bases protocols on expert opinions and peer-reviewed studies, many of which are without merit.³ Experts opine on inappropriate investigations or procedures, and I am aware that they sometimes base their recommendations on inaccurate analyses. Like Feynman, I believe "Science is the belief in the ignorance of experts."⁴ Clearly, not everyone with a headache needs an MRI. But ask a patient whose symptoms did not fit a protocol but who benefited from an early diagnosis that saved their life if their so-called inappropriate test was worthwhile. If I spend 45 minutes doing a complete physical and find a rectal tumor, was I not choosing wisely when I examined areas that were normal? Negative clinical exams—and yes negative findings on laboratory and imaging studies—are

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an empirically important and relevant part of practising good medicine. Physicians cannot be blamed for accessing what they consider appropriate and available diagnostic tools. Choosing wisely must not violate the rights of patients to override the societal directive or protocol and choose for themselves when their own health is involved.

Finally, I am disappointed that the CMA, as the main sponsor of a recent Economic Club of Canada event titled “Is It Time to Revisit the Canada Health Act?” agreed to the assignment of our president as a moderator while three nonphysicians (some of whom blame physicians for our system’s failings) espouse their opinions and recommendations. Our talented CMA president, Dr Gigi Osler, should have been front and centre as the main speaker at that event. Our professional bodies should not deviate from the principle that physicians should lead, rather than moderate, important discussions on the future of our health system. —BD

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Improving access to team-based primary care in Burnaby

Three primary-care networks (PCNs) and the new Burnaby Urgent and Primary Care Centre (UPCC) are coming to Burnaby in May 2019. The PCNs and UPCC will recruit approximately 68 new health care providers over the next 3 years, including 10 general practitioners, 10 nurse practitioners, 3 clinical pharmacists, and 45 nursing and allied health care professionals.

The three networks will be the Brentwood/Hastings PCN, Edmonds PCN, and Metrotown PCN. A fourth PCN located in the Lougheed region will be developed in the future.

Currently, Burnaby has 45 primary care clinics participating in the PCN and 133 general practitioners. The networks will partner new and existing health care professionals with the health authority and community organizations as part of a networked, team-based approach to providing care.

The Burnaby Urgent and Primary Care Centre, located in the Edmonds PCN, is the sixth centre to be announced in BC. The centre will open in two phases. The first phase offers extended hours evenings and weekends and will increase access to team-based care for a range of primary-care needs. In the second phase, the centre will host an incubator clinic to support experienced family physicians in mentoring new family physicians, consolidate nursing and allied health resources, and work to attach people in need of regular primary care.

In addition, once fully developed, the Metrotown PCN will also form a Centre for Healthy Communities that will support an incubator clinic. Centres for Healthy Communities are hubs for co-location of practitioner, health authority, and

community services and resources. They will serve as the focal points in the PCN to anchor, integrate, and support services and providers to serve the entire neighborhood.

The three PCNs will focus on the specific needs of the community and improve health services identified as high priority for each community, including:

- Enhanced access to regular, extended, and after-hours services for comprehensive primary care.
- Improved access to primary-care services for priority populations including seniors and immigrants.
- Team-based resources to better meet the needs of low- to moderate-complexity patients requiring specialized services including for frail seniors and mental health and addictions.

The PCNs will operate in close partnership and collaboration with the Division of Family Practice and Fraser Health primary care networks being implemented in Fraser Northwest communities.

The Ministry of Health will provide approximately \$12 million in annual operating funding to the Burnaby networks and UPCC by the third year, as new positions are added and patients are attached. To learn more about the province’s primary health care strategy, visit <https://news.gov.bc.ca/releases/2018PREM0034-001010>. To learn more about the Fraser Northwest primary care networks, visit <https://news.gov.bc.ca/releases/2019HLTH0036-000266>.

The Victoria Combined Peripheral Nerve and Spasticity Clinic

The Victoria General Hospital Clinic is offering novel, ground-breaking collaborative innovations. After witnessing impressive neuro-orthopedic

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Populism and the death (and rebirth) of medical associations

“We must indeed all hang together, or most assuredly we shall all hang separately.” —Benjamin Franklin

This is a fragile, uneasy time. Unstable markets, privacy breaches, and politicians who treat nuclear codes and human rights like the plot lines of a reality TV show have all created a collective unease. In health care, we’re seeing soaring costs due to bureaucracy, increased needs, and innovations in investigation and treatment. What resources we do have are further stretched by preventable outbreaks of disease due to vaccine misinformation, the replacement of nutrition by a supplement industry worth billions,¹ and mistrust in medication due to Big Pharma scandals.²

Professionally, doctors also feel under threat. Scope creep, overregulation, and antagonistic relationships with government and administrators have left many distrustful and wounded.

So is it any wonder that in the face of uncertainty many have chosen to turn inward? There is comfort in being with one’s own kind, who will protect you, and populist leaders have quickly played to this fear by blaming those who are different—sometimes even creating or accentuating those differences. Though these walls may be literal or figurative, and may even produce short-lived change, they do not lead to lasting positive gains.

As doctors, we are at risk to populism due to our heterogeneity. We work in urban, suburban, and rural locations. We are based in communities and/or facilities. Some of us refer, some consult, some do both. For historical reasons, those of us trained in Canada belong to one of two Colleges. Some are early in their career, some are at the end, and a lot are in between. We have varied backgrounds and beliefs.

Clearly there are many ways we can divide ourselves into distinct groups, and there are reasons for spending time in those groups. For example, divisions of family practice and medical staff associations focus on issues that are most important to a

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particular community or facility. Sections help represent doctors in certain areas of practice on matters such as fees, policies, and guidelines. But as much as I encourage everyone to become involved in the groups that work on their behalf—whether by simply joining or by doing something more—and as much as these organizations should address barriers to involvement, the choice to participate must be voluntary. For example, unlike for most doctors in Canada, being a member of your provincial medical association is your decision in BC, and whether or not you become (or stay) a Doctors of BC member doesn’t affect your ability to practise medicine in the province. And just as I encourage you to join your division, medical staff association, or section and support the work they do, this too should be your decision. The same argument applies to societies and to the CMA, with whom we ended our mandatory conjoint membership earlier this year.

Conversely, just as it is your choice to join an organization, the onus is on the organization to tell you what they do and to prove to you their value.

Doctors of BC, your medical association, is made up of members. Full stop. Sections, societies, divisions, and medical staff associa-



tions are some of the organizations with which we have working relationships, some outlined in the Doctors of BC Bylaws and some through the Physician Master Agreement. And as your organization is the only one that speaks for all doctors in the province, I hope that Doctors of BC will continue to earn your trust and advocate for you as best we can to support you in your profession and personal lives.

Thank you for choosing to read this. Thank you for choosing to be a member of Doctors of BC. Though the future is uncertain, our best chance is to face it united. We need a stronger community rather than more tribes. And when you decide to reject populist rhetoric, you choose a future that is Better Together.

—Eric Cadesky, MDCM, CCFP, FCFP
Doctors of BC President

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Re: Toxic lead exposure via an unusual source

In the Jan/Feb BC Centre for Disease Control (BCCDC) article [*BCM J* 2019;61:41], authors refer to an ayurvedic herbal remedy as an unusual source of toxic lead exposure. In fact, ayurvedic herbal medicine has been well documented to contain toxic lead levels.^{1,2} The BCCDC article serves as a reminder of the importance of inquiring into a patient's use of complementary and alternative medicine as an integral part of history taking. The use of ayurvedic medicine and potential lead poisoning can be readily identified, and that identification may have saved many emergency room visits, medical visits, and extensive investigations in this patient's case.

Ayurvedic herbal medicine from India and Chinese herbal medicine are the two most common complementary and alternative medicines that may contain lead and other heavy metals. In addition, some children's costume jewelry has been reported as an unusual source of toxic lead exposure.³

—H.C. George Wong, MD, FRCPC
Vancouver

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Re: Cannabis use by adolescents

I thank Dr Ocana for his insightful article, "Cannabis use by adolescents: Practical implications for clinicians" [*BCM J* 2018;61:14-19]. I would, however, question his conclusion that "there are more accidental overdoses and deaths. . ." attributed to the legalization of cannabis. His reference for this statement¹ mentions a single death due to myocarditis in an 11-month-old who tested positive for THC. In a *Washington Post* article² about that case, the child was said to be in an "unstable motel-living situation" with parents who admitted to multiple drug possessions, including marijuana. No causal relationship was suggested

in the case report³ described in that article, and the death was attributed to myocarditis, not marijuana exposure.² In fact, authors of the case report noted, "As of this writing, this is the first reported pediatric death associated with cannabis exposure."² Also in the article, "Nappe emphasized that the word 'associated' should not be interpreted as indicating a cause and effect."² I would also question the conclusion that cannabis legalization has led to more overdoses. Certainly legalization has been associated with more reported overdoses, but this could reflect willingness of parents to report accidental exposure because of decriminalization.

—Mike Figurski, MD,
CA-CPHIMS
Kelowna

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Doctors of BC AGM Vancouver, 31 May 2019

Doctors of BC members are invited to attend the 2019 AGM to be held at UBC's Robert H. Lee Alumni Centre, 6163 University Blvd. Registration starts at 3:15 p.m. and the AGM will begin at 4:30 p.m. in the Jack Poole Hall.

Awards ceremony is on Saturday, 1 June at the Sheraton Vancouver Wall Centre Hotel. Reception at 5 p.m. will be followed by the awards ceremony at 6 p.m., installation of the officers of the Doctors of BC, and the president's dinner with remarks from the new president. Dr Kathleen Ross.

To register and for more information on all related events, visit www.doctorsofbc.ca/agm.

Members, mosaics, and master agreements: A year to remember

Maybe it's the acoustic cover of "Despacito" playing the background. Maybe it's the late-night cuddles I received before opening my laptop. Maybe it's the solemn knowledge that this is likely the last thing I will write in the *BCMJ* as your president. Whatever the cause, I am in a reflective mood as I consider everything that we have accomplished together this year.

The most significant is the new Physician Master Agreement (PMA) that, in conjunction with our respectful and collaborative relationship with government, set new standards of recognition for the burdens that doctors carry and the supports we need to provide optimum care. We all owe a heartfelt thank you to the Statutory Negotiating Committee and its chair, Dr Trina Larsen Soles, as well as to our chief negotiator, Mr Paul Straszak, and the staff that advocated for us so well. As a result of this agreement our profession is positioned to continue caring and advocating for the health of our patients, our communities, and our colleagues.

Despite these tribal times when other leaders threatened walls and closed borders, we came together over honest, difficult, sensitive conversations on how to create a Doctors of BC that respects diversity, encourages inclusion, and promotes belonging. You told us about your experiences in different settings: these stories inform us as we move ahead on ensuring that all voices are heard and that everyone feels safe. This is not easy, but worthy journeys rarely are.

This year we continued settling into our new governance structure. We are now 2 years post-referendum that separated governance (the Board) from representation (the Representa-

tive Assembly [RA]), and this year saw another cycle for the new structure. In addressing conflicts of fiduciary duty, we have increased confidence that Board members have clear priorities. And allowing more time for reflection in RA meetings will further define roles

No matter our differences on a particular issue, we are all on the same team caring for the same patients in the same health care system.

and provide our leaders with more resources and experiences. This is all part of the RA's evolution to be your voice for complementary interests in the mosaic that is our organization.

The year ahead promises to be important, with patient medical homes, primary/patient care networks, implementation of the next phases of the PMA, a possible verdict in the Cambie legal challenge, and further collaboration with the Canadian Medical Association, government, health authorities, the University of British Columbia, and the College of Physicians and Surgeons. Changes in society and the practice of medicine make for uncertain times, but under the leadership of incoming president Dr Kathleen Ross we are in good hands. She understands the stresses we endure and the importance of professional unity in the face of identity politics. Doctors of BC staff support us tremendously, and often in ways that go unnoticed, so on behalf of us all I thank our adept CEO Allan Seckel and the rest of the staff who do their work so well so we can do ours.

Lastly, thank you to everyone who took the time to write, call, or meet with me this year. You are brilliant, dedicated, and inspiring. Doctors of BC is made of members. You are Doctors of BC. And we are better because of it.

It has been my honor to serve you. You may not have always agreed with what I said or how I said it, but, as I promised at the beginning of my term, I tried as hard as I could to represent you. I look forward to continuing this advocacy because no matter our differences on a particular issue, we are all on the same team caring for the same patients in the same health care system. After everything that has happened this year, I hope that you agree that having stayed together we have definitely done better.

—Eric Cadesky, MDCM,
CCFP, FCFP
Doctors of BC President



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Why I don't read medical literature

Mark Elliott, MD, FRCPC

Medical evidence has a credibility problem that is rooted in the fundamental problems with statistics. This problem is manifest in the inability to reproduce evidence on repeated randomized clinical trials (RCTs). Theoretically, an RCT is the way to answer questions about which treatments are useful, but practically, an RCT is too expensive to conduct with enough patients to get answers to such questions.

There are three fundamental problems with statistics. First, in 2005 John Ioannidis wrote what is now very well cited paper in *PLOS Med* entitled, "Why most published research findings are false."¹ In the article he likened medical research to a large RCT machine with three dials that can be conservatively set to show that medical research is 95% wrong. The first dial shows how many more false hypotheses there are than true ones. The second dial shows how underpowered studies are. The third dial shows how much published results are flooded with false positives.^{2*}

Second, there are very precise impressive algebraic statements made about the bell-shaped curve.[†] These statements have names like *variance* and *confidence intervals*. These statements simply tell us how uncertain we are about the average treatment value we measure from the data generated from our experiments compared to the real treatment value we would have if we had all the data, which we rarely do. Furthermore, biology rarely con-

forms to a bell-shaped curve.[‡] This means that all those impressive algebraic statements about how uncertain we are about our treatment are completely and absolutely meaningless.

Third, probability theory was originally developed for nothing more than winning at games of chance. Origina-

The statistical language of science is very different from the cause-and-effect language that the human brain uses.

tors of this theory[§] only cared if cards were dealt fairly and unpredictably to the players. There was no assumption of any random process going on. This leads to normative statements. Normative statements are very strange for a scientific enterprise. You can say that a full house beats two of a kind. That's true, because this is an "is" statement. However, the statement that you should not draw to an inside straight is a normative statement, which is an "ought" statement. And you cannot get an ought from an is.^{||}

Luckily there are three improvements taking place. First, you can now preregister a study with a reputable journal that does not charge a fee for publication (some regrettably

do). If accepted, and as long as you follow your protocol, the study will be published whether the results are positive, negative, or indifferent.

Second, people are discussing cognitive biases more openly. There is now a large body of published work in the fields of evolutionary psychology and behavioral economics that basically says the world does not run on rationality. Hundreds of these biases are now catalogued. However, the obvious which-drug-company-is-paying-for-dinner cognitive bias usually isn't discussed. This means that which treatments get promoted are still, to a large extent, based on marketing.

Third, there is now a causal revolution underway in statistics.⁴ The statistical language of science is very different from the cause-and-effect language that the human brain uses. As we came out of the trees and onto the plains of Africa, a part of our brains that had evolved to detect patterns in nature was co-opted to detect cause and effect. These early monkeys with big brains realized that A was followed by B and that one could manipulate A to change B. The mathematicians who developed statistics in the early 1900s did away with cause and effect so as to deal only with correlations because it made the math easier. There are now well-established causal inference tools that will help researchers make predictive statements from descriptive data alone.

Hopefully this credibility problem will improve. Hopefully our academic institutions will be more upfront

Dr Elliott is a staff anesthesiologist at Providence Healthcare in Vancouver.

in their push to have students do research as a means to a job. However there is a very large tyranny of the status quo to overcome.

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Footnotes

- * Derek Muller went to West Vancouver Secondary School and wanted to be a film director, but wound up at Queen's University, Kingston, for a BSc in engineering physics, then the University of Sydney for a PhD in physics education research. He has over 5 million subscribers to his YouTube channel, Veritasium, which produces science videos.
- † A bell-shaped curve is also known as a

normal distribution or a Gaussian distribution. If you go out two standard deviations from either side of the mean you account for 95% of the events, leaving only 2.5% in each of the tails of this type of statistical distribution. This is well described with mathematics, but the mathematics is only an approximation. It is a good approximation but not perfect. Physicians are usually quite in awe of all this math and tend never to question the underlying assumptions. But math is just another language, like English or French or any other language. The language of math is pretty good for physics but terrible for biology.

‡ There is a statistical distribution made famous by Nassim Nicholas Taleb's book *The Black Swan*. It is a distribution that is just a little lower in the centre and just a little higher in the tails. So all the action is now in the tails. If one overlays a fat-tailed distribution on top of a Gaussian distribution one can barely make out the difference by eye. But the probability of an event 10 standard deviations from the mean (a 10 sigma event) is one in a trillion in the Gaussian (remember the 2008 financial crisis apologists) but one in a hundred in the fat-tail distribution. This means there is a nine orders of magnitude change in those precise

algebraic statements that tell us how uncertain we are about our measurements. Human brains have difficulty understanding such exponential changes. For example, a six order of magnitude change would be buying a \$2 million house in Vancouver for \$2. Distributions for systems in which many variables are interacting (like in biology) probably follow an asymmetrical distribution called the Tracy-Widom distribution. If this is the distribution underlying our science, then those statements of uncertainty are not just orders of magnitude wrong, but simply meaningless.

§ One of the pioneers in this field was a physician named Gerolamo Cardano (1501–1576) whose book *Liber de Ludo Aleae (The Book on Games of Chance)* includes a chapter on cheating.

|| This ought-from-an-is debate has been going on for hundreds of years. At the start of the scientific revolution, David Hume wrote about it extensively. Yet despite this underlying philosophical paradox in probability theory, probability has taken over vast areas of human endeavor such as the actuarial science used by the insurance industry and the Black Scholes model of pricing financial derivatives (and we know how that turned out in 2008).



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The BC Emergency Medicine Network: Evaluation approach and early findings

A review of membership and online engagement data and an analysis of survey and interview results provide valuable insights for those interested in creating and improving clinical networks that support practitioners.

ABSTRACT

Background: Clinical networks have been found to provide benefits such as better and more standardized patient care and greater satisfaction for practitioners. In September 2017 the BC Emergency Medicine Network (EM Network) was launched to help practitioners deliver the best care. The EM Network's website was developed to provide individual practitioners with access to clinical resources, research and innovation initiatives, continuing professional development, and real-time support. Since surprisingly little is known about how clinical networks are best structured and developed, the plans for the EM Network included an early evaluation process to document and guide growth.

Methods: Overall function of the EM Network after 1 year of operation was evaluated by analyzing membership and online engagement data

and by conducting an online quantitative survey and subsequent qualitative interviews to obtain member feedback. Google Maps, Google Analytics, and Twitter Analytics were used, as well as PARTNER (Program to Analyze, Record, and Track Networks to Enhance Relationships), a validated social network analysis tool. The BC Ethics Harmonization Initiative advised that formal ethics approval was not needed because the study fits within a quality improvement framework.

Results: During the study period, the EM Network consisted of 622 of 1400 eligible members (44%) from 79 of 108 emergency care sites in BC (73%). Each month an average of 999 active users visited the website. While survey respondents indicated the EM Network is credible and respected, many were unaware of its purpose and offerings. Averaged

scores for the perceptions of survey respondents regarding three network values (power/influence, involvement, resource contribution) ranged from 2.36 to 2.52, with 3.00 being considered good. When survey respondents were asked if they felt supported in their work by the Network, the majority said they felt "supported" or "somewhat supported."

Conclusions: Our findings highlight the need for early evaluation after a network is launched to identify development needs. While our results must be interpreted cautiously because the EM Network is young, membership and online engagement data and member feedback indicate we need to increase awareness of offerings and encourage more on-line dialogue. Regular re-evaluation is planned to monitor progress and strengthen this initiative.

This article has been peer reviewed.

Background

The benefits of clinical networks are numerous and include better and more standardized patient care and less stress and more satisfaction for practitioners. In some situations, networks can eliminate the need to transfer patients to a higher level of care and thus can reduce costs and ensure continued local availability of ambulance crews for other patients.

In September 2017 the BC Emergency Medicine Network (EM Network) was launched to support the delivery of evidence-informed, patient-centred care in all 108 emergency departments (EDs) and diagnostic and treatment centres in BC.¹ The EM Network operates under the oversight of a Management Team and an Advisory Committee that includes patient partners. Through the EM Network website (www.bcemergencynetwork.ca), individual practitioners can access resources and services in four functional programs: clinical resources, research and innovation, continuing professional development, and real-time support. These publicly accessible resources are designed to

facilitate communication, physician engagement, patient engagement, and evaluation to achieve the EM Network's vision: "Exceptional emergency care. Everywhere."² As well, the website features a secure area where members can engage with other members in a discussion forum and access the member directory. Accessing the secure area requires approval by EM Network management to obtain a user name and password.

Together, the publicly accessible and secure parts of the website provide members with a practical point-of-care tool. For example, if an emergency practitioner is working alone and a patient presents with a condition seen rarely or not seen before by the practitioner, the practitioner can quickly access a brief synopsis of the condition (e.g., symptomatic atrial fibrillation) and its management in the form of a two-page summary or a 5-minute video. In future, if more help is needed, the practitioner will be able to connect synchronously with another practitioner in BC and be guided through the management of the condition virtually, which in the case of

symptomatic atrial fibrillation might include electrical cardioversion. This technology-supported component of the EM Network for peer-to-peer clinician support has been piloted in one location and is still in development.

Although networks, including clinical networks, are recognized as important for disseminating information and standardizing evidence-informed care, surprisingly little is known about how they are best structured and developed.³⁻⁶

Knowing that we need to learn more about what makes networks successful, the challenges networks face, the evolution of a network life cycle, and the best strategies for success,^{4,7-13} we included a formative evaluation in the design of the EM Network to assess overall network function. Our intention was to document early successes and obtain baseline data for future evaluations and to guide growth and improve the EM Network.

Methods

Overall function of the EM Network was evaluated regarding membership, online engagement, and member

All authors are affiliated with the BC Emergency Medicine Network and serve as either Management Team or Advisory Committee members. Dr Marsden is the lead for the EM Network's clinical resources program and works in the emergency departments of Mount Saint Joseph Hospital, St. Paul's Hospital, and Vancouver General Hospital. Ms Drebit is the manager of the EM Network. Dr Lindstrom is the EM Network's evaluation lead. He is also an adjunct professor in the School of Population and Public Health at the University of British Columbia and in the School of Leadership Studies at Royal Roads University. Ms MacKinnon provides support for the EM Network's research and innovation

program and the EM Network's communications strategy. Ms Archibald provides administrative and communications support for the EM Network. Dr Abu-Laban is the lead for the EM Network's research and innovation program and an emergency physician at Vancouver General Hospital. He is also an associate professor and research director of the UBC Department of Emergency Medicine. Ms Eggers is a patient partner on the EM Network's Advisory Committee. She is also a member of the Northern Health Critical Care Network Consensus Group. Dr Ho is the lead for the EM Network's real-time support program and an emergency physician at Vancouver General Hospital. He is also a professor

and the lead for digital emergency medicine in the UBC Department of Emergency Medicine. Dr Khazei is the lead for the EM Network's continuing professional development program, and practises emergency and hyperbaric medicine at Vancouver General Hospital. Dr Lund is the EM Network's communications advisor and an emergency physician at Royal Columbian Hospital and Eagle Ridge Hospital. He also works with BC Emergency Health Services as an online support physician. Mr Martin is a patient partner on the EM Network's Advisory Committee. Dr Christenson is the EM Network's executive lead and a professor and head of the UBC Department of Emergency Medicine.

perceptions of value and progress. The BC Ethics Harmonization Initiative (<https://bcethics.ca>) advised that the study fits within a quality improvement framework, precluding the need for a formal ethics application and approval process.

Membership

Membership data from 12 September 2017 (launch) to 31 August 2018 were exported from the EM Network website into an Excel spreadsheet for analysis. Membership in the EM Network is currently restricted to BC physicians practising in an emergency care setting with the exception of EM Network management staff, patient partners, and a few out-of-province content contributors. Members were plotted by primary hospital site using Google Maps. Members were classified as rural if their primary place of practice was considered rural by the BC Ministry of Health's Rural Practice Subsidiary Agreement, which evaluates each community on its level of isolation.¹⁴

Online engagement

To determine how many users, both EM Network members and nonmembers, were accessing the website and their frequency of use, data from 1 September 2017 to 31 August 2018 were analyzed using Google Analytics. Users were defined as having a unique IP address.

To measure the online engagement of members, we analyzed the number of posts and replies in the members-only discussion forum. Additionally, we analyzed Twitter activity using Twitter Analytics to gain a broader understanding of how users interact with the EM Network.

Member feedback

Member feedback was obtained through an online survey and individ-

ual interviews. This component of the EM Network's evaluation framework was developed based on literature recommendations¹⁵⁻¹⁸ and in collaboration with EM Network members and patient partners.

In February and March 2018, a quantitative survey was conducted using PARTNER (Program to Analyze, Record, and Track Networks to Enhance Relationships), a validated social network analysis tool developed through an evaluation of over 150 community networks.¹⁹ The PARTNER tool maps who is connected to whom, and provides a visual representation of the number and quality of relationships, the trust between partners, the value each partner brings to the relationship, resource contributions, and the roles that each partner plays. The tool requires one respondent per site or organization to answer questions, so one member from each of the emergency departments with members at the time of the study was invited to participate, thus ensuring a balanced geographic distribution and an appropriate rural/urban mix, with a rural site defined as a primary hospital in a community with a population of less than 10 000.²⁰ In order to minimize bias, EM Network Management Team members and Advisory Committee members were not eligible to participate. The survey was administered first to 77 members and a second time to 57 different members using the same selection strategy in order to increase the sample size. In both cases, survey respondents were invited via email and were sent three reminders. In total, 46 members responded. The two data sets were merged prior to analysis. For the purposes of the PARTNER survey, any redundancies were removed to achieve only one response per site, as the software is only able to recognize one response per site.

Twenty-one respondents to the quantitative survey were then asked to indicate whether they were willing to have a follow-up semi-structured interview. Both purposive and random sampling techniques were used to ensure a balanced geographic distribution and an appropriate rural/urban mix when selecting the 21 subjects. Survey respondents who had not completed the survey or only partially completed the survey were included in the interview invitation process in an effort to minimize selection bias.

Results

The analysis of membership and online engagement data indicated that after 1 year the EM Network had members throughout the province and a multitude of active users of the website. The analysis of survey data indicated members perceive the Network to be credible and have a small to fair amount of overall value, while interview results indicated a general lack of awareness of the Network's purpose and function.

Membership

On 31 August 2018, membership in the EM Network stood at 622 of approximately 1400 eligible physicians (44%), and these members were practising at 79 of 108 emergency care sites (73%) throughout BC, as shown in **Figure 1**. Looking at the rural/urban mix, 54% were from urban sites and 46% from rural sites.

Online engagement

From 1 September 2017 to 31 August 2018, 11 154 individuals with a unique IP address accessed the EM Network website. **Figure 2** shows that 999 users, on average, visited the site each month and 136 web pages were viewed each day. Users accessed the website from British Columbia (61%), other sites in Canada (12%),

and outside of Canada (27%). In the members-only discussion forum, 27 topics were posted, with 9 of these coming from EM Network management, and 94 replies were posted, with 29 coming from EM Network management. Most posts (78%) received at least one reply. The most popular discussion topics concerned operational/administration issues, cardiovascular conditions, and toxicology.

It is important to note that interaction also occurred outside the online discussion forum. At the end of the study, the EM Network had over 550 Twitter followers. During the study, the EM Network received an average of 27 “mentions” on Twitter per month, 581 “impressions” per day (the number of times the EM Network’s Tweets are seen by others), and two “likes” per day.

Member feedback

A questionnaire was emailed to 134 EM Network members selected from across the province, and responses were received from 46 (34%). Respondents were asked about the EM Network’s progress in achieving its goals in each of the four program areas: clinical resources, research and innovation, continuing professional development, and real-time support. When asked if they could usually find what they were searching for on the EM Network website, 58% said they could and the remaining 42% answered “not applicable.” Respondents felt progress had been made in the following areas:

- Development of a structure to share clinical and operational solutions and tools (33%).
- Fulfillment of the vision and mission of the EM Network (31%).
- Dissemination of important knowledge for critical decision making through continuing professional development (11%).

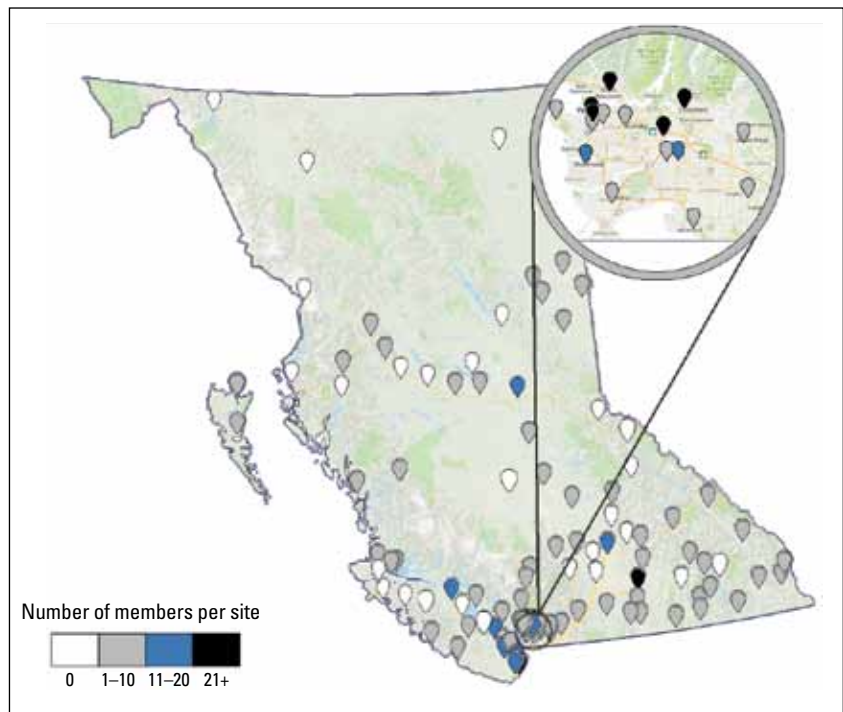


Figure 1. BC Emergency Medicine Network membership as of 31 August 2018.

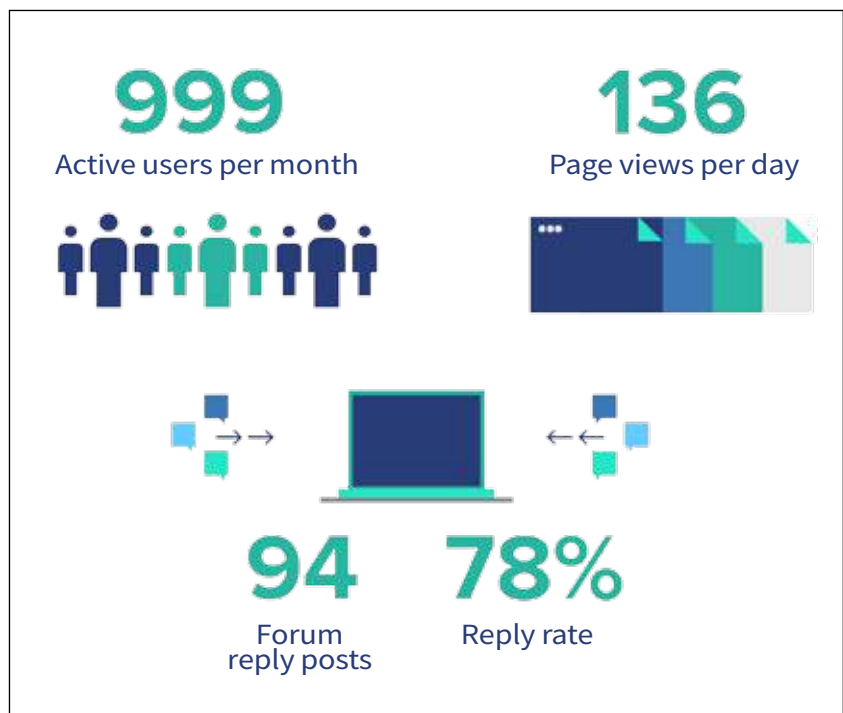


Figure 2. Summary of online engagement data for BC Emergency Network from 1 September 2017 to 31 August 2018.

- Clinical innovation to improve care across BC (8%).

Respondents indicated that progress was less evident in other areas:

- Integration of continuing professional development opportunities to acquire and maintain necessary EM skills such as increased simulation program capacity (5%).
- Implementation of real-time support (5%).
- System innovation (5%).
- Clinical resources knowledge translation (2%).

PARTNER software¹⁹ was used to diagram the whole EM Network based on respondent perceptions, as shown in **Figure 3**, which used a baseline set of indicators to depict the EM Network in its early phase of development. Each urban and rural node represents an ED or diagnostic and treatment centre with at least one emergency practitioner. These are shown along with nodes for external organizations that emergency practi-

tioners contact regularly: BC Ambulance Service, BC Patient Transfer Network, Emergency Physician Online Support, BC Drug and Poison Information Centre, Rapid Access to Consultative Expertise, and STARS (Shock Trauma Air Rescue Service). Lines on the diagram indicate connections between sites and organizations. Although the location of the nodes in the diagram does not signify value, the size of each node does. The larger the node the more value respondents perceived that site or organization to have.

Value was measured using a combined score for level of power/influence, level of involvement, and level of resource contribution. **Figure 4** shows averaged scores for these three values, which were rated by survey respondents as 1 (no value), 2 (a small amount), 3 (a fair amount), or 4 (a great deal), with scores of 3 and higher being considered good.

When surveyed, subjects were

asked if they felt more supported by the EM Network, and of the 22 survey respondents who completed that question, most indicated they felt “supported” or “somewhat supported,” as shown in **Figure 5**.

Of 21 members then invited to take part in semi-structured interviews, 16 (76%) participated. When all comments were analyzed, five concerns emerged:

1. General lack of awareness of the EM Network’s purpose and structure.
2. Lack of engagement regarding EM Network activities.
3. Little to no change perceived in collaborative behavior due to the EM Network.
4. Limited improvement perceived in job satisfaction due to the EM Network.
5. Lack of knowledge of EM Network offerings.

Despite these findings, many interview subjects said the EM Network is a credible and respected source and felt collaboration would likely improve over time as awareness and momentum builds.

Conclusions

After the first year of operation, the EM Network reviewed its membership and online engagement data and collected member feedback. The purpose was to document early successes and obtain baseline data to guide EM Network development and to use in future evaluations. We found almost three-quarters of EDs and diagnostic and treatment centres in BC had at least one registered EM Network member. However, despite the wide reach of membership, our results suggest that the EM Network needs to increase its efforts to create the awareness, trust, and collaboration required for a high-functioning, effective network. Further evaluation

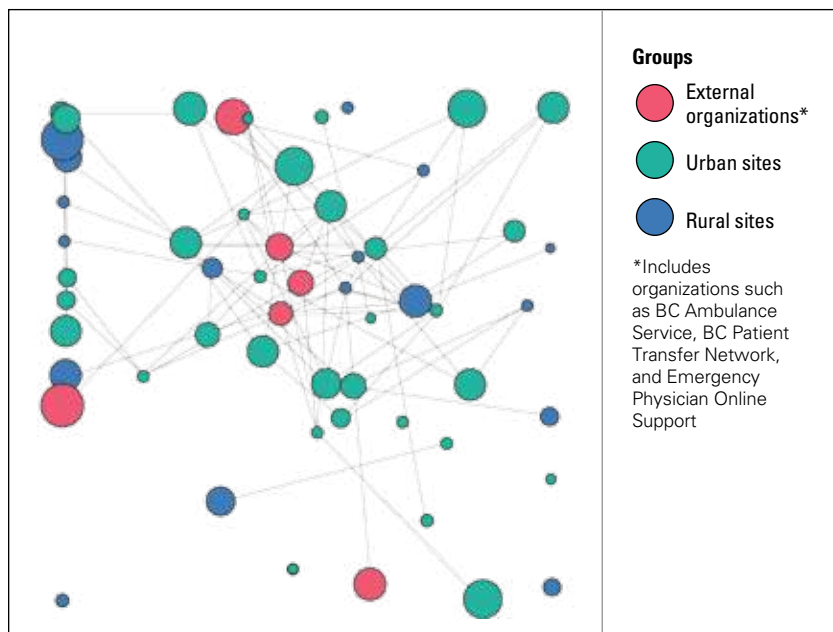


Figure 3. Diagram of BC Emergency Medicine Network as perceived by survey respondents, with larger nodes indicating more value.

will help us understand the gaps that members judge to be most important.

We found it encouraging that many respondents indicated they already view the EM Network as credible and respected. Possible reasons for this include but are not limited to:

- The Network’s affiliation with the UBC Department of Emergency Medicine.
- Reputable EM Network members with name recognition.
- Resonance with the EM Network vision.
- Clinically relevant website content.
- Plans to implement real-time support.

Our EM Network membership findings indicate that urban members are overrepresented at 54%, based on previous research showing that urban practitioners represent only 45% of all emergency practitioners in BC (unpublished data from 2016 UBC Department of Emergency Medicine survey by Marsden, Archibald, and Christenson), underscoring the need to reach more rural practitioners. Our membership findings also indicate we need to enhance current engagement strategies and consult with our partners about ways to encourage more rural practitioner involvement. Patient partners who are also active contributors to EM Network development may play a pivotal role in advocacy and community awareness.

With regard to online engagement, we found high website usage rates across BC. Over half of survey respondents indicated they were “usually” or “always” able to find what they were searching for. We were encouraged by these results though substantial effort is still needed to expand web content. The “not applicable” responses to survey questions are difficult to interpret as they could indicate that respondents did not have enough experience with the website to answer the question, or

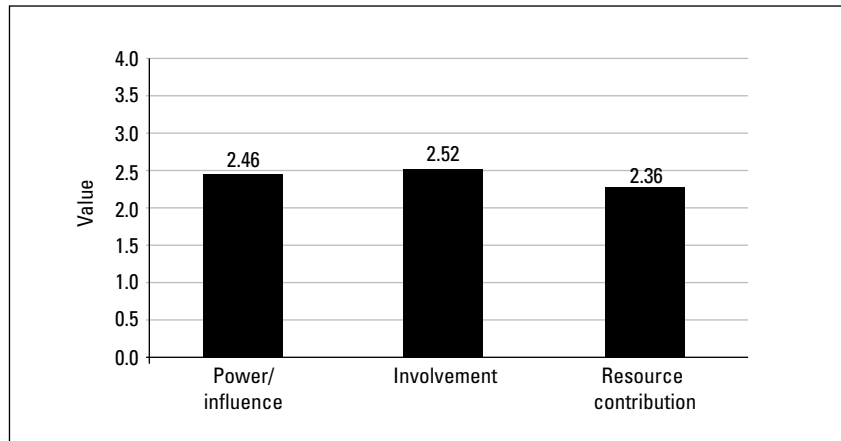


Figure 4. Averaged scores for the perceptions of survey respondent regarding Network values.

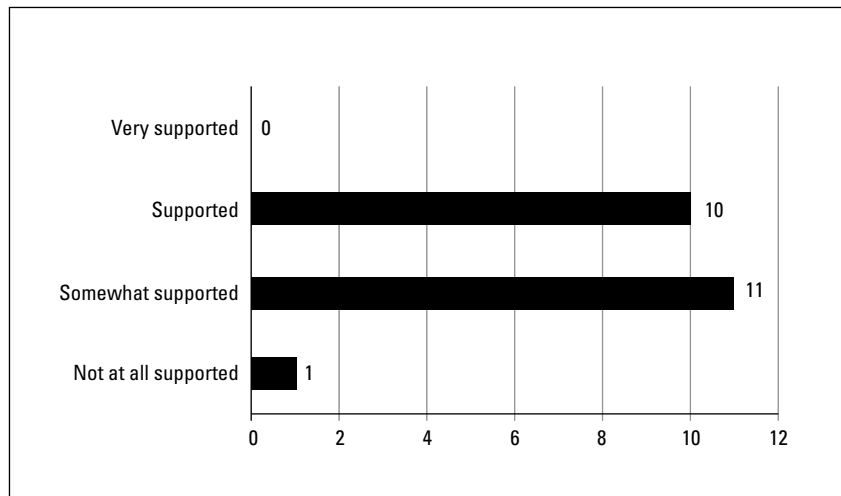


Figure 5. Responses to the survey question: “Do you feel more supported in your work with the BC Emergency Medicine Network in place?”

that they had not used the website to look for information. Although the reply rate is high for the members-only discussion forum, a small percentage of active users were identified and the EM Network Management Team members have played a significant role in initiating discussions. The use of online discussion forums is low in emergency medicine in general, and it will likely take time to change current culture and foster more member-

driven discussion of issues. Results obtained during the EM Network development phase show that relatively few BC emergency practitioners use social media, which suggests that a behavioral shift will need to occur for the EM Network to support a larger number of important and interactive online discussions. We will continue to explore strategies to accelerate physician-to-physician interaction through the website.

With regard to online engagement by way of Twitter, we found the EM Network has a strong following, but that the majority of followers are not EM Network members. Instead, most followers are partners and health organizations, health care workers, researchers, students, and members of the general public. It can be argued that having a strong following from nonmembers legitimizes the EM Network and demonstrates its significance to society. Furthermore, Twitter activity shows that online discussion forum participation is not the only form of engagement, and other forms need to be considered. Twitter activity also indicates that different individuals prefer other (and potentially multiple) ways to interact with the EM Network.

Network success has been described as occurring when “members perceive it to be achieved.”²⁵ One of the main objectives of the evaluation was to learn whether members believe the EM Network is fulfilling its vision and mission, whether goals for the four programs are being met, and whether members are feeling more supported in their work with the EM Network in place. Results from the qualitative interviews show that members believe that there has been noticeable progress regarding:

- Fulfilling the vision and mission of the EM Network.
- Establishing a clinical resources structure and repository.
- Facilitating continuing professional development.
- Supporting research and innovation.

It was not surprising that no progress was seen in implementing the real-time support program since only a pilot in one location has occurred so far. It was also not surprising to find that external organizations were perceived as more valuable than individual EDs. Measuring value is important for an effective network to ensure an

appreciation of all members within the network. It will be informative to see how the perceptions of members change as the EM Network matures, and how this is reflected in the number of connections between sites and the rating of their relative value.

Overall, it is noteworthy that all but one survey respondent felt more supported or somewhat more supported with the EM Network in place. As the purpose of the EM Network is to support emergency practitioners, we see this as an indicator of success.

Risks of early evaluation

While early evaluation provides multiple benefits, there are also known risks. Most notably, studies have shown that the effectiveness of a network “is not likely to be demonstrated in the early years . . . for networks, the added time needed to establish trusting relationships and meaningful activity is a factor that must not be underestimated.”²³ Consequently, members may be less likely to respond to evaluation surveys (as illustrated by our study), which further reinforces the perception that members are not engaged. Exposing missteps through an evaluation can also inhibit membership growth and engagement and diminish enthusiasm in those charged with building the network or providing sponsorship. This may explain why little information on developing networks currently exists. We planned this early evaluation with the belief that these risks were worth taking since such preliminary findings might show where and how we could increase our success. Thus, given the early stage of EM Network development, we expected to find a general lack of awareness and engagement and were not surprised that the scores for the value of individual organizations in the EM Network were relatively low. We were gratified to find

the overall structure and approach to support was not challenged, that the website itself is viewed positively, and that authorship and leadership are trusted. Finally, our findings suggest practitioners already feel more supported, despite our early stage of network growth, and have provided valuable and specific recommendations for improvement:

- Increasing face-to-face visits of targeted communities.
- Maintaining or accelerating communication strategies to increase engagement.
- Providing new techniques that encourage member contributions and comments in order to grow and improve content.

Study limitations

The chief limitation of this study is the low survey response rate. One reason for this may be the email address used for the survey request, which came from PARTNER and would have been unfamiliar to most recipients. Another reason for the low response rate may be poor member understanding and awareness of the EM Network, an initiative many knew too little about to provide feedback on, a notion supported by the responses of interview subjects who stated they were unable to comment on the relatively young network.

As a result of the low response rate, the PARTNER analysis considered a limited number of sites and relationships, and consequently found a relatively low perception of value for the EM Network. In addition, the PARTNER software was able to handle comments from only one member per emergency medicine site. Thus, despite repeating the survey twice and merging the data (something never done before), the resulting sample size of 134 was still modest relative to total EM Network membership.

Summary

This evaluation, undertaken in the first year of EM Network operation, highlights initial successes and identifies areas where further efforts are needed. A low level of awareness of the EM Network and engagement of the emergency medicine community still exists, and little to no perceived changes were reported to date in clinical behavior or job satisfaction. Analytics show there is frequent use of the website and membership is growing steadily. While membership stood at 44% of all EM practitioners in BC at the end of the study period in 2018, membership reached 737 (53%) as of 24 March 2019. We believe our findings are encouraging and appropriate for this early stage of network development, and that they provide valuable insights and strategies for others interested in creating and improving clinical networks. The BC Emergency Medicine Network will continue to gather data, evaluate, and make adjustments as necessary. By doing this we can expand network functions, document what success looks like for clinical networks, and fulfill the EM Network's mission of sharing, supporting, and innovating to improve patient care in BC. **BCMJ**

Competing interests

Dr Marsden is paid to serve as the lead for the clinical resources program of the BC Emergency Medicine Network. Ms Drebit, Ms MacKinnon, and Ms Archibald as well as Drs Abu-Laban, Khazei, and Lund all receive a salary from the BC Emergency Medicine Network. Dr Lindstrom receives consulting fees from the BC Emergency Medicine Network. The remaining authors have no competing interests to declare.

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Harm reduction throughout the opioid crisis: A community responds

A conversation with Mr Ronnie Grigg, manager of the Vancouver Overdose Prevention Society.

Jacob L. Stubbs, BKin

ABSTRACT

Mr Ronnie Grigg has been a long-time harm reduction worker in the Vancouver Downtown Eastside and is currently general manager of the Vancouver Overdose Prevention Society. Located at 58 East Hastings St. in Vancouver, British Columbia. The Vancouver Overdose Prevention Society is a not-for-profit organization that oversees hundreds of consumptions daily. The society began as a tent designated for safe consumption and overdose prevention, and was one of the initial community-led responses to the opioid crisis in British Columbia. In 2017, its peer workers—all individuals from the Downtown Eastside community—oversaw more than 100 000 visits to the site, responded to 417 overdoses, and recorded zero deaths. In mid-September 2018, I interviewed Mr Grigg about his experiences in harm reduction and innovations such as the society that arose in response to the opioid crisis. In this interview Mr Grigg describes his experiences as a front-line harm reduction worker during the crisis, his perspectives on the role of overdose prevention sites as an integral component of the health care system, and the need for increased support of the peer workers who staff these sites.

JS: Could you please state who you are and your current position?

RG: My name is Ronnie Grigg, my title is general manager of the Vancouver Overdose Prevention Society (OPS), and I've been a long-time front-line worker in the Downtown Eastside. I previously had a leadership position at Insite, which was a pioneering safe consumption site in Canada, for many years. With the recent proliferation of overdose prevention sites, I've come in to manage OPS, which is also a pioneering site in harm reduction.

How would you describe what you do?

My role, and the role I share with our management team, is very broad. I'm still a front-line worker attending to overdoses, and I manage the staff at OPS. OPS is a fledgling not-for-profit, so I also handle decision making and funding. We've garnered some worldwide attention, so engaging the media and sharing the collective wisdom is also a significant part of my job now.

What has it been like to be a front-line harm reduction worker throughout the opioid crisis?

It was autumn 2014 when powdered fentanyl hit. When fentanyl arrived, Insite, which averaged 10 overdoses

per week, went up to 10 per day, overnight. Insite stayed in this 8 to 10 overdoses per day range for 2 years, with spikes during which it got worse. And in the past 2 years it's just continued to worsen.

From my perspective, I've seen that the front-line harm reduction worker has been a neglected part of the narrative. We've often been referred to as the first-first-responders—that is, those who attend an overdose before the first responders arrive. What separates us from first responders like fire and ambulance is that more often than not we know the people's names, we've cared for them day in and day out, we've cared for their loved ones. So there's a different relationship and response from harm reduction workers in the community.

At the height of the crisis there were many nights when you would hear of multiple deaths. One night

Mr Stubbs is a PhD student in the Experimental Medicine Program (Psychiatry) at the University of British Columbia. His work focuses on characterizing the scope and impact of traumatic brain injury in the homeless and marginally housed.

This article has been peer reviewed. Mr Grigg's responses have been lightly edited for clarity and brevity.



Photo: Colin Askey

Ronnie Grigg outside Vancouver's Overdose Prevention Society.

there were four in my shift alone. So we were attending to overdoses, hearing news of someone we cared about dying, processing that grief in the moment, but then also caring for others in their grief. That aspect of trauma for harm reduction workers hasn't really been acknowledged. I don't want to diminish the experience of first responders—they have been deeply affected by this crisis—but for harm reduction workers it's not just the impact of responding to an overdose, it's the grief of a community.

What does harm reduction and low-barrier care mean to you?

An easy way to look at harm reduction is as meeting people where they're at. For the person with sleep deprivation after days of stimulant and opioid use, simply hydrating them is an aspect of harm reduction. Low-barrier care is about the caregiver modifying themselves to provide care for someone who has difficulty accessing care.

For example, emergency rooms have barriers for some individuals. Many people in this neighborhood cannot go through the triage process in an ER for whatever reason, whether it be stigma from staff, things escalating quickly, or some other factor.

What gave rise to the Vancouver Overdose Prevention Society?

It was a crisis response. Sarah Blyth—a colleague, friend, and founder of OPS—noticed that the incidences of overdoses were increasing, which began to dominate her days as manager of the Downtown Eastside market. She dedicated a portion of the market to a supervised consumption area under a tent. It was also a bit of an act of community civil disobedience. There were no permissions or exemptions given. This was a crisis and this was the response. No one could come in and say, "take that down," because no one else had a solution. It was initially funded through a GoFundMe

campaign, then the provincial health minister at the time recognized the benefit of these sites and called for funding. Three more sites started within 2 weeks—all peer run without embedded clinical support. It was a true community response. Now we have a provincial exemption that acknowledges the crisis-response aspect that allows us to function under the federal exemption standards.

What makes OPS different from government-funded safe injection sites such as Insite?

It's the low-barrier aspect. Our entrance is a gate in an alleyway, so our separation from life in that alley is not much. When I worked at Insite we had limitations to what we could help with. In Health Canada's language, assisted injection is having a health care provider actually pushing the plunger, and we weren't allowed to formally assist injecting people. What needs to

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be acknowledged is that this semantic definition is a barrier for some people. For example, a lot of young females depend on someone else to inject them. At places like Insite, these individuals aren't allowed to have someone else inject them. That's not an issue at OPS; your partner can inject you, you can find someone in the room, etc. At OPS we don't require staff to do any of those things, but we let people ask others if anyone can help. Then someone else on site can help with that injection. If there is a dependency surrounding having someone inject, OPS can accommodate that. Insite was always the hallmark of low-barrier care, but it is interesting with the development of OPS [to realize] how barriered Insite really can be.

OPS can also accommodate a wide variety of forms of drugs. We're the only site in Vancouver that can accommodate inhalation. And there is also an anonymity that people benefit from at OPS, which combined with the low-barrier aspect provides personal agency.

How is the Overdose Prevention Society staffed?

OPS uses the peer model, which is based on persons with lived experience [of addiction and life in the Downtown Eastside], and their role historically has been to bridge between the professional and the one who needs care. Before the opioid crisis teams might have a single peer worker attached to a care model. At OPS the ratio has been upended; we've created teams of peers that are supported by a few nonpeers. During this crisis it's no longer about that peer group supporting professionals, it's about a community taking charge of their own.

These peer community members have such a complex story. There has been something amazing about the community response and about the opportunity for a marginalized group

to attend to the needs of their own community. The impact of meaningful work, especially for individuals who struggle to get meaningful work, is massive. But how do we leave the heavy lifting of such a massive crisis to such a marginalized and unsupported population? What are we doing for the trauma and the grief of the peer worker? It's a really complex and nuanced situation.

[Vancouver has] informed policy around the globe. I want people to be proud of that. It might be ugly, it might be confusing, and it might seem chaotic, but we can take care of people in profound ways.

Are there health care providers or first responders at OPS?

No, but we can further define that. Everyone at OPS has naloxone training and overdose management training and experience. But as far as any licensed or professional body, we don't have that.

Is that a funding restraint?

Yes, essentially. I would say it largely boils down to funding. Although there are other constraints, such as WorkSafeBC language with the nurses' unions for example. If someone says, "f***," in my direction, that can be interpreted as verbal abuse. Nurses experience an inordinate amount of abuse in their work environment, but when you put those standards in a front-line environment, WorkSafeBC doesn't have the language to support front-line care. This is a new spectrum of workplace, so workplace language should be informed by us.

What role do you believe OPS is filling that the health care system is not?

Honestly, those in decision-making

positions struggled with a response to this question. Perhaps because they are removed from the front-line experience they have difficulty grasping the immensity of the crisis. I was there, boots on the ground, face first, working nights. I was making my requests in the manner that I could, and advocating and supporting the best I could. What I wanted was to increase the number of front-line harm reduction workers—double us up, give us more equipment, just do something. That's what I was advocating for. There was only so much we could do, and it took a long time for our message to be heard. OPS is a community response providing the lowest-barrier harm reduction services for this community, which is invariably saving lives.

Is there more that you think the government or health care professionals can do to support the opioid crisis response or OPS?

Yeah, there's tons they could do. The support of harm reduction workers, specifically, is a huge issue. How does a marginalized person who is making \$50 a day working at an overdose prevention site get a day off? How do they get mental health support? The complexity around mental health, this work, and its impact demands an immense requirement from us and others.

I also recently came across a systematic review paper looking at the efficacy of these sites, but they threw out everything besides eight articles. The perspectives of the drug user, the front-line worker, and the peer worker weren't heard. And the hard data isn't everything.

What do you think leads to controversy around these sites, and should they be controversial?

The language. The "enabler" language, "facilitating illegal activity," "harm production" instead of "harm reduction." There's a sort of self-

righteous posturing behind the idea that everyone should be a contributing member of society, have a job, pay their rent or mortgage. This fails to recognize the limits of our cultural organization. There are people here who will never fit into that mold because of mental illness, mental capacity, or trauma. We need to acknowledge that harm reduction is an important care model, and we need to protect it.

I've been living and working in this neighborhood for a long time. So, in some ways, I don't have an effective barometer for controversy. On the other hand, I have a really effective barometer for suffering and needless tragedy. We can respond to this, but the primary barrier is drug policy and access to a clean and safe supply. Let's say that the decriminalization model is trustworthy: instead of a lethal drug supply, one can access a managed, prescribed supply. Let's say that access to care increases, and the associated stigma, violence, and crime decreases.

Then maybe it's not that bad to have in my neighborhood, right?

Vancouver has been a global leader in the response to the HIV/AIDS crisis and the experience of HIV/AIDS, and harm reduction. Those are two deeply compassionate experiences, and we've informed policy around the globe. I want people to be proud of that. It might be ugly, it might be confusing, and it might seem chaotic, but we can take care of people in profound ways. I think that's a flag we should wave.

What do you find most encouraging or inspiring about your work?

The response to this crisis has emerged from grassroots efforts. In their words, a bunch of junkies just organized. That reality—people advocating for themselves, people changing the face of health care—that's why all of this exists. It was people experiencing the situation and saying, this change needs to happen. It's important to

continue to be innovative and pioneering, and if you lead with compassion, change happens.

When we have staff meetings with all the peer staff we start with two acknowledgments—an acknowledgment of the land and an acknowledgment that we did something significant here. We are the site that innovated this care model. We inform drug policy and care, and now people come to seek out our wisdom. That's inspiring to me. I exhaust my mind, body, and soul caring for people who are suffering unimaginably with grief and trauma. I have two daughters and they are proud of me. That's good, and that's inspiring.

And finally, we're beginning to change the language around prohibition. Arresting our way out of this is not working. This is not moral deviance; it is people who are hurt, traumatized, in pain, whatever. This is a medical crisis, not a moral crisis, and we need things to change. **BMJ**

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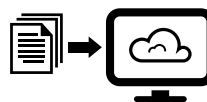
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WorkSafeBC's multimodal approach to chronic noncancer pain management: New hotline for physicians

British Columbia continues to have record numbers of illicit drug overdose deaths. Currently, ongoing and multisectorial efforts are contributing to a better understanding of the factors characterizing or contributing to the overdose epidemic. Recent BC Coroners data¹ indicate there were 1489 suspected illicit drug overdose deaths in 2018 (approximately four deaths per day), similar to the previous year. The data also indicate that illicit fentanyl was detected in more than 80% of those deaths, more than 70% of those who died were aged 30 to 59, and more than 80% were males.¹ An earlier descriptive analysis of overdose deaths in BC in 2016–17 indicates that 44% of those who died were employed at the time of death.^{2,3}

The National Institute for Occupational Safety and Health (NIOSH) recently launched a framework addressing workplace factors in the opioid epidemic. Elements of the framework emphasize the need for improved understanding of risk factors associated with the workplace, such as history of workplace injuries and prescription opioids. An improved understanding and determination of occupations and workers at risk for opioid overdose can also help inform the response to the opioid epidemic.⁴

Opioid pain medication is associated with risks including overdose and opioid use disorder. WorkSafeBC has been developing best practices and alternatives in managing long-term chronic noncancer pain through a multifaceted Opioids Harm Reduction Program. The program includes ongoing education on topics such as

appropriate opioid prescriptions, opiate agonist treatment, and evidence-based treatment of chronic pain.

WorkSafeBC's practical experience provides clear evidence that long-term use of opioids typically yields few long-term improvements in pain and function.⁵ Recognizing the lack of benefits and the risk of

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harms from prolonged opioid use in managing chronic noncancer pain, WorkSafeBC issued practice directive #C10-1, "Claims with opioids, sedative/hypnotics or other prescribed potentially addictive drugs," which is available on www.worksafebc.com. The practice directive provides prescription timelines, recommended dosages, and a schedule of opioid follow-up reviews.

During the past 2 years WorkSafeBC content experts have been delivering an outreach program to health care providers. The sessions, "Not just a prescription pad: A multimodal approach to chronic pain management," are free for attendees, fully accredited, and aligned with the College of Physicians and Surgeons of BC's practice standards for the safe prescribing of opioids. The workshops address best practices in safe prescribing of opioids; tapering, substitution, and exit strategies; various pharmacological and non-

pharmacological strategies for the treatment of chronic noncancer pain; and community resources, including WorkSafeBC programs available to injured workers with an accepted WorkSafeBC claim (list of rehabilitation programs and services is available on www.worksafebc.com). The intent is to bring together community health care providers such as physicians, nurse practitioners, pharmacists, and physiotherapists to help develop collaboration and capacity at the local level. In 2018, WorkSafeBC hosted 11 sessions in communities across the province reaching 230 attendees, of whom 73% were family physicians or residents and 11% were nurse practitioners.

In 2019, WorkSafeBC is offering the following evening workshops, with dinner included:

- 2 May in Kelowna
- 24 May in Nanaimo
- 31 May in Prince George
- 20 June in Dawson Creek/Fort St. John
- 18 October in Kelowna

Register online at <https://events.eply.com/chronicpain> or call 1 877 231-8765 for these and other workshops to be scheduled in Cranbrook, Salmon Arm, Vancouver, and Vernon. Seating is limited.

WorkSafeBC hotline for physicians

As part of the Opioids Harm Reduction Program, WorkSafeBC has launched a new hotline staffed by in-house medical experts who offer counseling and support to community prescribers in management of opioids, tapering, nonpharmaceutical strategies, harm reduction programs, community resources, and referrals

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

Brucellosis and other diseases imported with dogs

In December 2018 an adult woman presented with a 2-month history of fever, chills, fatigue, weight loss, and headache. Her blood culture tested positive for *Brucella canis*. She helped transport rescue dogs from Mexico and the US to British Columbia, including a pregnant dog from Mexico that spontaneously aborted two stillborn puppies during transport. The dog tested positive for *B. canis* by immunofluorescent antibody test.

This was the first recorded human *B. canis* infection in BC. *B. canis* is rarely transmitted to humans; children and immunosuppressed individuals may be at higher risk. Four canine cases were documented in BC in 2017–18, all in imported dogs. The incidence is likely underestimated. Zero to two cases of human brucellosis are reported annually. Most are caused by *B. melitensis* acquired via contact with ruminants or consumption of unpasteurised milk in endemic countries.

Dogs are imported into Canada for personal, commercial, or compassionate reasons. In 2013–14, 197 Canadian rescue organizations imported 6189 dogs,¹ with actual numbers likely significantly higher. Some dogs carry diseases that are rare in Canada and may pose a risk to the public (Table).

Canine rabies is endemic in many countries. Dogs over 3 months old must have a certificate of rabies vaccination prior to entry into Canada.² There is a small risk of introduction of rabies with imported dogs as some are too young to be vaccinated and certificates are not routinely verified.

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

Disease	Clinical picture
Brucellosis	Systemic illness (fever, headache, weakness, arthralgia, myalgia, anorexia, weight loss) and localized infection of joints, liver, CNS, heart, spleen, genitourinary system.
Rabies	Fever, anxiety, malaise followed by encephalitic (agitation, hydrophobia, hyperventilation, hypersalivation, convulsions) or paralytic forms followed by coma and death.
Alveolar echinococcosis	Asymptomatic period followed by larval mass formation in liver with local invasion of tissues and metastases to lungs and brain, mortality of 50% to 75%.

Table. Zoonotic diseases that can be introduced from imported dogs.

If a dog bites a person in BC and has been in an endemic country in the past 6 months, consult the local public health department to assess and manage rabies risk.³

Echinococcus multilocularis is a canine tapeworm that can cause alveolar echinococcosis in humans through inadvertent ingestion of eggs shed by infected dogs. The disease is very rare in southern Canada, though recently there have been reports of locally acquired *E. multilocularis* infection in dogs in BC, Alberta, and Ontario.⁴ The emergence has been attributed to range expansion of infected imported dogs. Deworming in the country of origin or upon arrival decreases the risk.

Although severe, all these infections are preventable. Counsel patients to have imported dogs assessed by a veterinarian to ensure they are free of disease and adequately immunized. If a patient presents with compatible symptoms, consult an infectious diseases specialist or medical microbiologist to determine the diagnostic workup. When completing a requisition, it is important to indicate “exposure to rescue dog” on the form because special laboratory safety precautions are necessary to prevent laboratory staff from acquiring *B. canis*.

Ask the patient about animal exposure and its origin and report unusual diseases and zoonotic exposures to the local medical health officer.

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It is time to improve access to first-line contraception for BC's youth

Authors call on the government of British Columbia to cover the cost of long-acting reversible contraception for youth in this province so they can access first-line contraception without barriers.

Kelly Anne Cox, MD, MPH, Eva Moore, MD, MSPH

Earlier this year, the Canadian Paediatric Society joined the American Academy of Pediatrics and the Society for Adolescent Health and Medicine in recommending long-acting reversible contraception (LARC) as a first-choice contraceptive for youth.¹⁻³ LARC includes intrauterine devices (IUDs) and implantable birth control; howev-

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This article has been peer reviewed.

er, in Canada, IUDs are the only type of LARC approved for use.¹ IUDs are either hormonal or nonhormonal (copper), and out-of-pocket costs for an IUD in BC range from \$75 for a copper IUD to \$325 to \$400 for a hormonal IUD.⁴ In comparison, the cheapest oral birth control available at the province's sexual health clinics costs \$13 per pack (\$468 for 3 years),⁵ and a medical abortion in BC ranges from \$500 to \$750.⁶

LARC is superior to other birth control methods such as condoms or birth control pills in that its perfect use is equivalent to typical use.

LARC is superior to other birth control methods such as condoms or birth control pills in that its perfect use is equivalent to typical use.² It lasts from 3 to 10 years, depending on the type. Certain medical conditions, such as migraines with auras, prevent adolescents from being able to use combined oral contraception because

of their increased risk of blood clots. Among these adolescents, both hormonal and nonhormonal IUDs can be safely used.^{1,7}

Cost is a significant barrier to accessing contraception. A recent American study assessed pregnancy and abortion rates among teens who were provided free contraception, including LARC, and compared them to the American national average. Authors found that birth, abortion, and pregnancy rates were significantly lower among teens who were provided free contraception compared to all other teens.⁸

In BC in 2015, 828 babies were born to mothers under age 20.⁹ There are social, educational, and physical risks associated with unintended pregnancy in adolescence.¹⁰ Unintended teen pregnancies are associated with poorer educational achievement and lower income for the mother. Babies born to teen mothers are more likely to be born preterm and small for gestational age, which increases the risk for a stay in a neonatal intensive care unit.¹¹

At sexual health clinics across the province, oral contraceptives are often the only contraception choice available for free, despite evidence that LARC is more effective and cost-efficient.¹² While it is laudable

that a hormonal IUD is on the Fair Pharmacare formulary, there remain potential barriers for teens whose families may qualify for Fair Pharmacare—the family may not be signed up, or they may not have met their annual deductible yet. For teens from families who do not qualify for Fair Pharmacare, the burden is on the teen to either buy the IUD or ask for financial assistance from their family. Because confidentiality is a foundational aspect of adolescent care,¹³ and sexual health care in particular, it is problematic to rely on adolescents to communicate with their parents about covering the cost of an IUD in order to receive the protection.

LARC is now the first-line recommended option for contraception among teens. It is time for the province to follow evidence-based practice by removing barriers to LARC and funding it for youth under age 25 across the province.

Competing interests

None declared.

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for WorkSafeBC injured workers. The toll-free hotline number is 1 855 476-3049, and is staffed between 8:30 a.m. and 4:30 p.m., Monday to Friday.

—Peter Rothfels, MD
WorkSafeBC Chief Medical Officer and Director of Clinical Services
 —Olivia Sampson, MD, CCFP, MPH, FRCPC, ABPM
WorkSafeBC Manager of Clinical Services

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The unseen impacts of climate change on mental health

From Fort St. John to Victoria, and Cranbrook to Dease Lake, effects of climate change, including wildfires, drought, flooding, and severe weather events, are occurring with increasing frequency and severity across the province.¹ It is estimated that there has been a 1.4 °C average temperature increase across British Columbia in the last century, with an increase of 1.3 to 2.7 °C projected by 2050.¹ The health effects of this warming are numerous and multifaceted with implications for clinical practice across specialties.²

Although often unseen, and less prominent in headlines, climate change and associated sequelae have both direct and indirect implications for mental health and psychosocial well-being.² Specifically, climate change has been associated with numerous mental health conditions including posttraumatic stress disorder (PTSD), depression, anxiety, grief, substance use disorders, and suicidal ideation among many others.³ Older adults, children, those with pre-existing conditions, comorbidities, limited culturally safe supports, and/or lower socioeconomic status may be more vulnerable during emergencies.⁴

Over the last few years wildfires across the province, exacerbated by changing weather patterns and temperature increases, have resulted in poor air quality, displacement and housing insecurity, food and water insecurity, and social isolation, and have affected employment opportu-

nities for some British Columbians—all with mental health implications for those affected. Studies of similar experiences in Fort McMurray, Alberta, after wildfires forced total evacuation in 2016, suggest that psychosocial impacts from the fires were widespread and likely to persist following evacuation.⁵ In the context of disasters, health care providers and first responders are often among those affected. Despite growing appreciation of the mental health effects associated with climate change, measuring these effects has proven to be particularly challenging due to the problems of causation and attribution.³

For physicians and other health care providers, the mental health effects of climate change will undoubtedly continue to affect our patients, our practices, and our communities for years to come. In this context, support for mitigation and adaptation strategies by clinicians is essential.⁶ Adaptation strategies focus on systemic modifications to reduce the risk of and cope with the negative effects of climate change. The 2018 Lancet Countdown Briefing for Canadian Policymakers recommended investing in research on the mental health effects of climate change and psychosocial adaptation.⁷ Building a robust evidence base to inform adaptation measures to protect and promote mental health is a critical first step. Possible adaptation measures targeting mental health may include:

- Expanding access to mental health services, including cognitive behavioral therapy, crisis counseling, and individual/group therapy.
- Increasing primary care interventions to improve mental health and promote resilience.
- Improving surveillance and monitoring of mental health in the context

of climate change–related events.

- Integrating robust, evidence-based measures to address psychosocial well-being in climate action plans as well as emergency preparedness planning.⁴
- Enhancing training for health care providers and first responders in addressing the psychosocial needs of patients.³

Given current climate-related projections, it is important that the BC physician community develop an awareness of the psychosocial implications of climate change and actively participate in efforts to prepare, advocate, and respond.

—Elizabeth Wiley, MD,
JD, MPH

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This article is the opinion of the Environmental Health 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.

Group CBT appointments: Enabling GPs to support patients with mild to moderate mental health issues

Statistics show that one in five Canadians experience a mental illness or addiction problem in any given year, and one in two will experience a mental illness by age 40.¹ Mild to moderate depression and anxiety comprise a number of these cases. According to a 2016 report from the Canadian Chronic Disease Surveillance System, about three-quarters of Canadians who used health services for a mental illness annually consulted for mood and anxiety disorders.

Cognitive behavioral therapy (CBT) is often recommended as therapy for mild to moderate anxiety and depression, and has proven to be as effective as antidepressants in treating depression² and most anxiety disorders.³ CBT therapy is covered by MSP, but waits for psychiatric support are long, meaning patients often look to their GP for care. In fact, 80% of people with mental health issues receive care in the primary care setting.⁴

A grassroots solution in Victoria and the South Island

Surveys show that 24.3% of Vancouver Island residents report suffering from anxiety and depression.⁵ Recognizing that GPs on South Vancouver Island needed more support to care for these patients, the Victoria Division of Family Practice and the Shared Care Committee funded the development of CBT Skills Groups, with Shared Care and the South Island Division of Family Practice also supporting the project as a mental health initiative for South Vancouver Island.

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

The skills groups are based on CBT principles and practices. Sessions focus on self-management, providing participants with a variety of coping tools so they can decide what works best for them. The CBT Skills Group program, which is designed to be delivered within primary care,

80% of people with mental health issues receive care in the primary care setting.

was co-developed by psychiatrists and family physicians. The groups are funded by MSP billing, meaning the only cost to participants is a \$35 fee to pay for the program workbook (and this fee can be waived in cases of financial hardship). Each cohort accepts up to 15 people, and sessions run between 90 and 120 minutes. The program supports GPs to do training and develop CBT skills, increasing their confidence in caring for patients with mild to moderate mental health conditions, and enabling them to diversify their practice and care for patients in their own clinics. Participant feedback has been positive, highlighting the quality of the facilitators, affordability and accessibility of the program, and the fact that the group format allows for peer support and reinforcement that participants are not alone.

A sharable model of care

Once physicians were trained and the program was established in Victoria, psychiatrists on the project team

trained a group of South Island Division physicians to expand the service to the Western Communities and the Saanich Peninsula. Currently, both the South Island Division and Victoria Division-trained facilitators work together to service the South Vancouver Island region. The program and its referrals are administered by the CBT Skills Groups Society of Victoria.

With support from the Shared Care Committee, the Victoria program has spread to a number of communities across BC, including Vancouver. The Vancouver Division of Family Practice funded the development of the program in its own community, which now runs with seven locally trained physician facilitators and its own dedicated referral centre. The Victoria Division shared all of its materials (workbook, referral form, and processes) and provided ongoing advice to initiate the program in Vancouver.

Divisions and physicians who would like to learn more about CBT Skills Groups, or who are considering adopting the model, can visit the Victoria Division website⁶ or the Shared Care Learning Centre website.⁷ The Shared Care Learning Centre features a profile for CBT Skills Groups, including a readiness assessment and details for how divisions can get started in implementing the program.

— **Afsaneh Moradi**
Director, Community Partnership and Integration

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outcomes in Europe, physiatrist Dr Paul Winston (medical director of Rehabilitation for Island Health) accessed a team of experts to test, trial, and improve the latest standard of care.

Dr Winston was already providing a complex peripheral nerve clinic with plastics and hand surgeon Dr Emily Krauss, who specializes in nerve transfers for people with spinal cord injury. He approached Dr Daniel Vincent, interventional anesthesiologist, on how they could best reproduce an individual lidocaine selective nerve motor block to spastic muscles to choose the most responsible muscle causing spastic deformity and determine if the patient had underlying contracture.

From a 1-day session with physiatrists from Victoria, Vancouver, and Nanaimo, they learned the technique by adding ultrasound guidance to what was previously an EMG guided technique. The change in range of motion in the spastic limbs was suffi-

ciently profound that Dr Vincent, who had decades of experience using cryoneurotomy for sensory nerve pain relief, suggested adapting the protocol to motor nerves. This decades-old technique of freezing nerves involves a percutaneous ice ball at -60 °C. After 6 months of researching the technique, and finding only one published case of motor cryoneurotomies, the team began to offer cryoneurotomy, resulting in impressive change in function. At the same time, Dr Krauss began to offer selective micro fascicular neurotomies by stimulating the tiny nerve branches of selective nerves and cutting the branches to the most spastic muscle group found after the ultrasound-guided nerve blocks. By cutting nerves, she has been restoring active hand opening to patients with no hand function, or opening nonfunctional clenched fists with skin breakdown. Dr Krauss specialized in this micro fascicular arrangement of nerves in her fellowship in St. Louis.

The Victoria physicians have part-

nered with Vancouver-based physiatrists, led by Dr Rajiv Reebye, along with Dr Patricia Mills and Dr Heather Finlayson and orthopaedic surgeons Drs Kishore Mulpuri, Lise Leveille, and Tom Goetz to create a new organization, the Canadian Advances in Neuro-Orthopedics for Spasticity Congress. An inaugural congress in April (www.canosc.com) brought international experts together in Vancouver. Together they plan to advocate for collaborative care with physical therapies, botulinum toxin, and bracing.

The project was supported by a grant from the Specialist Services Committee, a joint collaborative committee of Doctors of BC and the Ministry of Health.

Spring 2019: Billing webinars for GPs

The GPSC and SGP are pleased to continue to offer their billing webinars this spring for family doctors who are new-to-practice/new-to-BC. Led by physician educators, each webinar will be cumulative and content-specific:

- GPSC Billing Part 1: Tuesday, 7 May 2019, 6:00 p.m. to 8:30 p.m.
- GPSC Billing Part 2: Tuesday, 11 June 2019, 6:00 p.m. to 8:30 p.m.

Space is limited. For details about new-to-practice eligibility, each webinar's content, and registration links visit www.gpsc.bc.ca.

Vancouver CBT Skills Group Program increases capacity for referrals

The Vancouver Division of Family Practice is offering an 8-week Cognitive Behavioural Therapy (CBT) Skills Group for young adult and adult patients (18 and older) who are suffering low to moderate anxiety, depression, and other lower-acuity mental health diagnoses. CBT is an evidence-based treatment for anxiety or depression. The program is psycho-educational and skills focused, with

New medical retina referral clinic at St. Paul's Hospital

Providence Health Care in conjunction with Drs Bill Ross, David Albani, Andrew Merkur, Andrew Kirker, and Kaivon Pakzad Vaezi are pleased to announce the establishment of a medical retina consultation service in the Eye Clinic at St. Paul's Hospital starting 8 May 2019. The consultation service will focus on the diagnosis and treatment of diabetic eye disease, macular degeneration, branch and central vein occlusions, inflammatory eye conditions, and inherited macular dystrophies and disorders. Diabetic retinopathy remains the leading cause of visual disability in Canadians of working age between 20 and 65. Macular degeneration is the main cause of blindness in Canadians over 65.

The St. Paul's Hospital Eye Clinic has recently obtained a state-of-the-art Optos wide-field fundus camera, which will be able to detect the earliest manifestations of diabetic retinopathy and macular degeneration. Patients who are diagnosed with macular pathology will be able to receive laser photocoagulation treatment or intravitreal anti-VEGF injections at the clinic.

Referred patients will be evaluated by the medical retina fellow along with the retina staff. A full consultation report including the appropriate diagnostic testing will be sent to the referring doctor. Appointments for this new service can be made by phone: 604 874-0404, or fax: 604 874-0099. The clinic's goal is to provide consultations within 2 weeks of the referral.

each session running 1 hour and 45 minutes with up to 15 participants. The cost is \$35 for the extensive workbook. The program is mostly covered through MSP. Groups will take place at various times and locations across the City of Vancouver. With seven physician facilitators running groups, the program has ample capacity for patient referrals, which need to come from a primary care physician. The referral form and further information is available on Pathways (<https://pathwaysbc.ca/login>) and on the Vancouver Division of Family Practice website (<http://divisionsbc.ca/vancouver/CBTskillsgroup>).

New HIV screening opportunities

A study from the BC Centre for Excellence in HIV/AIDS (BC-CfE) uncovered new opportunities to diagnose individuals living with HIV in the health care system. In 2017, nearly a quarter of those diagnosed with HIV in BC had a CD4 count that was low, a major indicator of a weakened immune system and advanced HIV disease. HIV testing rates have steadily increased in the province since 2014, with more than 87 900 British Columbians accessing an HIV test in the last quarter of 2018. However, data analyzed by the BC-CfE showed 1 in 7 individuals living with HIV in BC could have been diagnosed earlier—if health care providers had recognized certain key clinical conditions as triggers for HIV screening.

According to the BC-CfE study, published in PLOS-One, individuals aged 40 years or older, heterosexuals, people living in remote areas, and people who had ever injected drugs were more likely to have had a missed opportunity for an earlier HIV diagnosis. Researchers defined a missed HIV testing opportunity as an encounter with a health care provider due to a condition or clinical symptoms possibly associated with HIV. This included recurrent pneumonia,

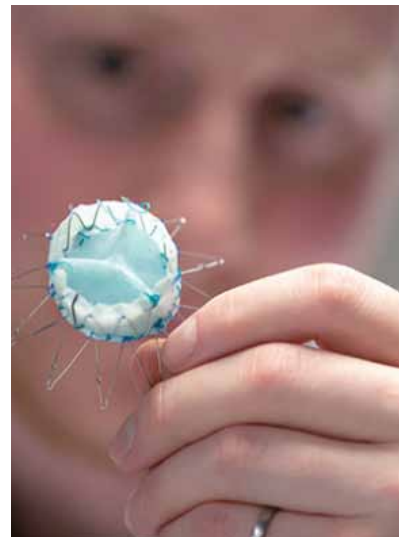
shingles among individuals younger than 50 years old, and anemia. A late diagnosis of HIV can affect individuals by increasing their risk of hospitalization, progression to AIDS, and premature mortality. Missed opportunities for earlier HIV diagnoses can also increase the risk of transmission of the virus to others and can put increased demand on the health care system.

BC HIV testing guidelines, available since 2014, recommend health care providers offer individuals an HIV test every 5 years. Individuals considered at high-risk of HIV are recommended to have an HIV test at least once per year.

The study, “Missed opportunities for earlier diagnosis of HIV in British Columbia, Canada: A retrospective cohort study, is available at <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0214012>.

UBC researchers develop heart valve aimed at high-risk patients

Researchers at UBC Okanagan have created the first-ever nanocomposite biomaterial heart valve developed to reduce or eliminate complications related to heart transplants. By using a newly developed technique, the researchers were able to build a more durable valve that enables the heart to adapt faster and more seamlessly. Assistant Professor Hadi Mohammadi runs the Heart Valve Performance Laboratory (HVPL) through UBC Okanagan’s School of Engineering. Lead author on the study, he says the newly developed valve is an example of a transcatheter heart valve, a promising new branch of cardiology. These valves can be inserted into a patient through small incisions rather than opening a patient’s chest. Existing transcatheter heart valves are made of animal tissues, most often the pericardium membrane from a cow’s heart. The new valve solves the problem of



Nanocomposite biomaterial heart valve enables the heart to adapt faster and more seamlessly after a transplant.

significant implantation risks and potential coronary obstruction and acute kidney injury by using naturally derived nanocomposites—a material assembled with a variety of very small components—including gels, vinyl, and cellulose. The combination of the new material with the noninvasive nature of transcatheter heart valves makes this new design very promising for use with high-risk patients. The combination of material, design, and construction of the valve lowers stress on the valve by as much as 40% compared to valves currently available.

Working with researchers from Kelowna General Hospital and Western University, the valve will undergo vigorous testing to perfect its material composition and design. The testing will include human heart simulators and large animal in vivo studies. If successful, the valve will then proceed to clinical patient testing.

The new design was highlighted in a paper published in the *Journal of Engineering in Medicine* with financial support from the Natural Sciences and Engineering Research Council of Canada.

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Read the article, “Proposed percutaneous aortic valve prosthesis made of cryogel,” at <https://journals.sagepub.com/doi/10.1177/0954411919837302>.

BC Dental Association resources for physicians
Oral care manual for cancer patients

BC Cancer has developed a manual to provide user-friendly, evidence-based guidelines for the management of oral side effects of cancer therapy. This manual will allow community-based practitioners to more effectively manage patients in their practices. The information contained in this manual has been collected from many resources, most significantly from the work of the Oral Care Section of the Multi-national Association for Supportive Care in Cancer and the International Society of Oral Oncology.

It is well known that maintaining good oral health is important in cancer patients, including patients with hematologic malignancies. Oral pain or infections can cause delays, reductions, or discontinuation of life-saving cancer treatment. Poor oral health can also lead to negative impacts on

a patient’s quality of life including psychological distress, social isolation, and inadequate nutrition. These guidelines have been developed to achieve better patient outcomes. The manual is available on the BC Dental Association’s website: https://bcdental.org/Dental_Health/Oral_Care_Manual_2018.pdf.

Early childhood oral-health resources

BC Dental Association also has new resources to educate expectant parents, new parents, and caregivers about the importance of early childhood oral health and the impact of early childhood caries on children’s healthy development. Visit www.yourdentalhealth.ca/kids-teens/babies-and-toddlers to view and download the Baby Teeth Matter pamphlet, available in English, Chinese, and Punjabi. Printed pamphlets are available to physicians in Richmond and Surrey (part of a prevention pilot in those communities) to provide to parents and caregivers. To request pamphlets for your clinic, please email bcda@bcdental.org with the subject “ECC pamphlet request.” Please include the following information:

- Number of pamphlets per language (units of 50). Please note quantities are limited.
- Office mailing address (Surrey and Richmond offices only).
- Contact name and phone number.
- Practice type (e.g., family practice or specialist [please specify]).

Vancouver Medical Staff Hall of Honour 2019 inductees

The second-annual induction ceremony of the Vancouver Medical Staff Hall of Honour was held on 31 January 2019 at Vancouver General Hospital. The ceremony was well attended by the inductees’ families, friends, and colleagues. The Honourable Janet Austin, Lieutenant Governor of British Columbia, provided the opening remarks. The inductees are all pion-

eers in their specialties who achieved national and international recognition for their contributions to clinical and academic medicine/surgery. As reflected by their induction into the Hall of Honour, the inductees greatly enhanced the profile of Vancouver General Hospital/UBC Hospital as well as the UBC Faculty of Medicine.

The 2019 inductees are:

- Dr B. Lynn Beattie, professor emeritus of medicine and founding head, Division of Geriatrics
- Dr H. Joachim Burhenne (1925–1996), former professor and chair, Department of Radiology, UBC, and past director, Department of Radiology, VGH
- Dr Stephen M. Drance, OC, past head, UBC and VGH Departments of Ophthalmology
- Dr H. Rocke Robertson, CC, (1912–1998), inaugural chair, Department of Surgery, UBC
- Dr Juhn A. Wada, OC, professor emeritus, Department of Psychiatry and Neurosciences, UBC

The Hall of Honour Committee also sincerely thanks Drs Marie Chung and Stephen Chung, Ms Allison Harris and Ms Silvia Chang, Ms Brenda Kosaka, and Dr Frederick Mikelberg for composing the inductees’ biographies and participating in the induction ceremony. The committee also acknowledges the generous ongoing support of the Vancouver Medical, Dental, and Allied Staff Association, Vancouver Coastal Health.

—Eric M. Yoshida, OBC, MD, FRCPC

Hall of Honour Committee Chair

—Marshall Dahl, MD, PhD, FRCPC

Past President VMDAS

—Stephen Nantel, MD, FRCPC

Hall of Honour Committee Member

—Frances Perry, BSc

Administrative Assistant, VMDAS

—Jennifer Laxamana

Administrative Assistant, VMDAS

—Simon W. Rabkin, MD, FRCPC

President VMDAS



BC Medical Journal
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Concussions and return-to-work considerations, by @WorkSafeBC. To better understand concussion and optimize care of concussion patients injured at work, there are two valuable resources.

Read the article: bcmj.org/worksafebc/concussions-and-return-work-considerations



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

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The *BCMJ* endorses the “Recommendations for the Conduct, Reporting, Editing, and Publication of Scholarly Work in Medical Journals” by the International Committee of Medical Journal Editors (updated December 2016), and encourages authors to review the complete text of that document at www.icmje.org.

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Letters to the editor, articles, and scientific papers must be reviewed and accepted by the *BCMJ*'s eight-member Editorial Board prior to publication. The Board normally meets the last Friday of every month, at which time submissions are distributed for review the following month. We do not acknowledge receipt of submissions; the editor will contact authors of articles by e-mail once the submission has been reviewed by the Board (usually within 8 to 10 weeks of submission). The general criteria for acceptance include accuracy, relevance to practising BC physicians, validity, originality, and clarity. The editor contacts authors to inform them whether the paper has been rejected, conditionally accepted (that is, accepted with revisions), or accepted as submitted. Authors of letters are contacted only if the letter is accepted and editorial staff need further information. Scientific papers and other articles typically take 5 to 10 months from the date of receipt to publication, depending on how quickly authors provide revisions and on the backlog of papers scheduled for publication. Manuscripts are returned only on request. The *BCMJ* is posted for free access on our web site.

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Manuscripts of scientific/clinical articles and case reports should be 2000 to 4000 words in length, including tables and references. The first page of the manuscript should carry the following:

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- All authors' professional/institutional affiliations, sufficient to provide the basis for an author note such as: “Dr Smith is an associate professor in the Department of Obstetrics and Gynaecology at the University of British Columbia and a staff gynecologist at Vancouver Hospital.”
- A structured or unstructured abstract of no more than 150 words. If structured, the preferred headings are “Background,” “Methods,” “Results,” and “Conclusions.”
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- Name, address, telephone number, and email address of corresponding author.

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When submitting a clinical/scientific/review paper, all authors must complete the *BCMJ*'s four-part “Authorship, copyright, disclosure, and consent form.”

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- Drafted the article or revised it critically for important intellectual content, and
- Given final approval of the version to be published.

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1. Gilsanz V, Gibbons DT, Roe TF, et al. Vertebral bone density in children: Effect of puberty. *Radiology* 2007;166:847-850.

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(NB: The access date is the date the author consulted the source.)

A book cited in full, without page number citations, should be listed separately under Additional or Suggested reading. Such a list should contain no more than five items.

References to unpublished material

These may include articles that have been read at a meeting or symposium but have not been published, or material accepted for publication but not yet published (in press). Examples:

1. Maurice WL, Sheps SB, Schechter MT. Sexual activity with patients: A survey of BC physicians. Presented at the 52nd Annual Meeting of the Canadian Psychiatric Association, Winnipeg, MB, 5 October 2008.

2. Kim-Sing C, Kutynec C, Harris S, et al. Breast cancer and risk reduction: Diet, physical activity, and chemoprevention. *CMAJ*. In press.

Personal communications are not included in the reference list, but may be cited in the text, with type of communication (oral or written) communicant's full name, affiliation, and date (e.g., oral communication with H.E. Marmon, director, BC Centre for Disease Control, 12 November 2007).

Material submitted for publication but not accepted should not be included.

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It is the author's responsibility to obtain written permission from both author and publisher for material, including figures and tables, taken or adapted from other sources. Permissions should accompany the article when submitted.

Scientific misconduct

Should possible scientific misconduct or dishonesty in research submitted for review by the *BCMJ* be suspected or alleged, we reserve the right to forward any submitted manuscript to the sponsoring or funding institution or other appropriate authority for investigation. We recognize our responsibility to ensure that the question is appropriately pursued, but do not undertake the actual investigation or make determinations of misconduct.

Tables and figures

Tables and figures should supplement the text, not duplicate it. Keep length and number of tables and figures to a minimum. Include a descriptive title and units of measure for each table and figure. Obtain permission and acknowledge the source fully if you use data or figures from another published or unpublished source.

Tables. Please adhere to the following guidelines:

- Submit tables electronically as Word or Excel files so that they may be formatted for style.
- Number tables consecutively in the order of their first citation in the text and supply a brief title for each.
- Place explanatory matter in footnotes, not in the heading.
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- Ensure each table is cited in the text.

Figures (illustrations). Please adhere to the following guidelines:

- Images must be high resolution; if unsure, send highest resolution possible and we will advise if necessary.
- Number figures consecutively in the order of their first citation in the text and supply a brief title for each.
- Place titles and explanations in legends, not in or on the illustrations themselves.

- Provide internal scale markers for photomicrographs.
- Ensure each figure is cited in the text.
- Color is not normally available, but if it is necessary, an exception may be considered.

Units

Report measurements of length, height, weight, and volume in metric units. Give temperatures in degrees Celsius and blood pressures in millimetres of mercury. Report hematologic and clinical chemistry measurements in the metric system according to the International System of Units (SI).

Abbreviations

Except for units of measure, we discourage abbreviations. However, if a small number are necessary, use standard abbreviations only, preceded by the full name at first mention, e.g., in vitro fertilization (IVF). Avoid abbreviations in the title and abstract.

Drug names

Use generic drug names. Use lowercase for generic names, uppercase for brand names, e.g., venlafaxine hydrochloride (Effexor). Drugs not yet available in Canada should be so noted.

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Before you submit your paper, please ensure you have completed the following, or your paper could be returned:

- Authorship, copyright, disclosure, and consent form is completed and included (available at www.bcmj.org).
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- Three key words are provided.
- Author information is provided for all authors.
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- Reference list is in correct numerical order and is complete.
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DIABETES DIRECTORS SEMINAR

Vancouver, 10 May (Fri)

The Endocrine Research Society is pleased to present the 31st Diabetes Directors Seminar, an annual UBC-accredited gathering of leading dia-

betes experts and caregivers across British Columbia. Join us at the Sandman Vancouver City Centre Hotel for a full-day presentation series covering the latest and most pertinent aspects of diabetes, therapeutics, and clinical care. Target audience: specialists and family physicians with an interest in diabetes care, nurses, dietitians, pharmacists, and other diabetes educators responsible for diabetes management within their own groups and communities. Register now as space is limited. Online registration at www.endocrine.researchsociety.com/events/31st-annual-diabetes-directors-seminar. Further information: Tristan Jeffery, Endocrine Research Society, email: endocrine.research.society@gmail.com, tel: 604 689-1055.

DOCTORS OF BC AGM

Vancouver, 31 May (Fri)

Doctors of BC members are invited to attend the 2019 AGM to be held at UBC's Robert H. Lee Alumni Centre, 6163 University Blvd. Registration starts at 3:15 p.m. and the AGM will begin at 4:30 p.m. in the Jack Poole Hall. To register and for more information on all related events visit www.doctorsofbc.ca/agm.

MBCT RETREAT

Cortes Island, 31 May–5 Jun

Join us at Hollyhock for the Fostering Resilience for Health Professionals: MBCT Retreat. Replenish and revitalize yourself in this mindfulness-based cognitive therapy (MBCT) meditation retreat for physicians, other health and mental health professionals, and their partners. Learn specific skills to foster resilience and reduce the risk of burnout. MBCT, an integration of mindfulness meditation practices and elements of cognitive therapy, offers a different way to encounter and identify habitual patterns of thinking, feeling, and be-

havior that can lead to overwork and stress. Drs Mark Lau and Andrea Grabovas are MBCT mentors with the UCSD Mindfulness-Based Professional Training Institute and will also provide a 5-day MBCT Professional Training at Hollyhock in October. Hollyhock is located on beautiful Cortes Island, BC. Enjoy garden-fresh meals, cozy accommodations, and oceanside hot tubs in a serene natural setting. Course fee: \$1370 to \$2472 for 5 nights (includes tuition, room, meals, amenities). Further information and registration: <https://hollyhock.ca/fostering-resilience>.

EMERGENCY AND CRITICAL CARE CONFERENCE

Parksville, 1–2 Jun (Sat–Sun)

Join us in Parksville on Vancouver Island for this year's Vancouver Island "Top 5 in 10" Emergency and Critical Care conference. This course will be held at the Parksville Community Centre and is geared to emergency physicians, family physicians, registered nurses, residents, and students. This event has been expanded to 2 days and will maintain the same great format of 10-minute lectures, fun intermissions, contests, entertainment, and videos. Come laugh and learn. Saturday night mixer with special guest Dr Brian Goldman. Course features at the new venue will now include the critical care component. Great speakers: Drs Grant Innes, Peter Rosen, David Williscroft, and more. There may also be an APLS preconference course—stay tuned. Accommodation: The Beach Club Resort: <http://bit.ly/viec2019rooms>. Group code: UBC CPD-Vancouver Island Emergency Conference. Booking deadline: 30 April. Program details and registration: <https://ubccpd.ca/course/viec2019>. Tel: 604 675-3777, email: cpd.info@ubc.ca.

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CME listings rates and details

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. Visa and MasterCard accepted.

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.

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.

Planning your CME listing:

Planning to advertise your CME event several months in advance can help improve attendance. Members need several weeks to plan to attend; we suggest that your ad be posted 2 to 4 months prior to the event.

Continued from page 187

PRACTICE SURVIVAL SKILLS Vancouver, 15 Jun (Sat)

The 12th annual Practice Survival Skills—What I Wish I Knew in My First Years of Practice conference will be held at the UBC AMS Nest and emphasize practical, nonclinical knowledge crucial for your career. Topics include billing and billing forms, rural incentives, MSP audits, medicolegal advice and report writing, job finding and locums, financial and insurance planning, practice management and incorporation, licensing and credentialing, and digital communication advice. Target audience: family physicians, specialty physicians, locums, IMGs, physicians new to BC, family practice and specialty residents, and physicians working in episodic care settings. Course format comprises collaborative didactic lectures and interactive small-group workshops; plenty of networking opportunities, and practice-based exhibits. Join us in the afternoon for a job fair and networking reception to meet with colleagues and make career connections. Program details and online registration at <https://ubccpd.ca/course/practice-survival-skills-2019>. Tel: 604 675-3777, email: cpd.info@ubc.ca.

GP IN ONCOLOGY TRAINING Vancouver, 9–20 Sep and 3–14 Feb 2020 (Mon–Fri)

The BC Cancer's Family Practice Oncology Network offers an 8-week General Practitioner in Oncology training program beginning with a 2-week introductory session every spring and fall at the Vancouver Centre. This program provides an opportunity for rural family physicians, with the support of their community, to strengthen their oncology skills so that they may provide enhanced care for local cancer patients and their families. Following the introductory session, partici-

pants complete a further 30 days of customized clinic experience at the cancer centre where their patients are referred. These can be scheduled flexibly over 6 months. Participants who complete the program are eligible for credits from the College of Family Physicians of Canada. Those who are REAP-eligible receive a stipend and expense coverage through UBC's Enhanced Skills Program. For more information or to apply, visit www.fpon.ca, or contact Jennifer Wolfe at 604 219-9579.

ST. PAUL'S EMERGENCY MEDICINE UPDATE

Whistler, 26–29 Sep (Thu–Sun)

Join us for the 17th Annual St. Paul's Conference. Four exciting days of learning, networking, and of course, recreation! We had over 300 attendees last year. Don't miss out! Pre-conference workshops: CASTED, HOUSE EM, CAEP AIME. Target audience: Any physician providing emergency care, emergency nurses, paramedics. Keynotes: Best Literature of the Past Year (Dr Grant Innes, Dept. of Emergency Medicine, University of Calgary); Sub-Arachnoid Hemorrhage—What the ED Doc of 2019 Needs to Know (Dr Jeff Perry, Dept. of Emergency Medicine, The Ottawa Hospital); Gender and Medicine in 2019—Where Are We? Where Can We Go? How Can We Get There? (Dr Carolyn Snider, St. Michael's Hospital, Toronto); Managing Stress in a High Risk Environment (Mr Will Gadd, gold medalist, X-Games). Conference details and registration: <https://ubccpd.ca/course/sphemerg-2019>. Accommodation: <http://bit.ly/sph2019reservations>. Tel: 604 675-3777, fax: 604 675-3778, email: cpd.info@ubc.ca.

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gpssc

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CLASSIFIED ADVERTISING (limited to 700 characters)

Rates:

Doctors of BC members: \$50 + GST per month for each insertion of up to 350 characters. \$75 + GST for insertions of 351 to 700 characters. Payment is required at the time that you place the ad.

Non-members: \$60 + GST per month for each insertion of up to 350 characters. \$90 + GST for insertions of 351 to 700 characters.

Payment is required at the time that you place the ad.

Deadlines: Ads must be submitted or cancelled by the first of the month preceding the month of publication, e.g., by 1 November for December publication.

Visit www.bcmj.org/classified-advertising for more information. Place your classified ad online at www.bcmj.org/classified-advertising.

employment

ARMSTRONG—FT FAMILY PHYSICIAN

Haugen Medical Group, located in the heart of the North Okanagan, is in need of a full-time family physician to join a busy family practice group. Flexible hours, congenial peers, and competent nursing and MOA staff will provide exceptional support with very competitive overhead rates. Obstetrics, nursing home, and inpatient hospital care are not required, but remain optional. Payment schedule: fee for service. If you are looking for a fulfilling career balanced with everything the Okanagan lifestyle has to offer, please contact Maria Varga for more information at mariavarga86@gmail.com.

CALGARY, AB—PHYSICIAN NEEDED, SANTIMED FAMILY & WALK-IN CLINIC

We have openings for a general practitioner, family physician, and specialist physician to join our brand new modern clinic, the Santi-Med Family and Walk-In Clinic. We will provide support for those who are new graduates while they build their practice. We guarantee our involvement and support to build the patient population or roster the physician needs in order for them to succeed. All applicants must be fully licensed in Alberta to practise without supervision or sponsorship. We are located in a busy location in the northeast area of Calgary next to the Peter Lougheed Hospital. Contact Dr Omid Pour-ahmadi: 403 388-9694, info@santimedclinic.com.

KELOWNA—FLEXIBLE S/L-TERM LOCUM

Locum needed to help support single-physician practice while I am on unplanned medical leave from 20 March to end of September 2019. Any amount of time would be great! Choose your own hours. Beautiful office with a view in the Mission area. EMR is MOIS (user friendly). Email pamandderm@gmail.com if interested.

LOWER MAINLAND (TRI-CITIES)—RADIOLOGIST, FULL-TIME, PERMANENT

Pacific Medical Imaging is seeking a fellowship-trained general radiologist, preference to MSK Fellow, to join a dynamic group practice in Vancouver. Group serves tertiary care hospital (Royal Columbian), community hospital (Eagle Ridge), and community imaging clinic (MedRay Imaging, www.medrayimaging.com). The successful applicant will be expected to provide diagnostic medical imaging services at all sites in general radiography, fluoroscopy, ultrasound, CT, breast imaging, and MRI. Successful candidates must be eligible for FRCPC in radiology, licensure with the CPSBC, and malpractice insurance. Please send cover letter and CV to Linda Kiilerich at linda.pacificmedicalimaging@gmail.com.

NANAIMO—GP

General practitioner required for locum or permanent positions. The Caledonian Clinic is located in Nanaimo on beautiful Vancouver Island. Well-established, very busy clinic with 26 general practitioners and 2 specialists. Two locations in Nanaimo; after-hours walk-in clinic in the evening and on weekends. Computerized medical records, lab, and pharmacy on site. Contact Lisa Wall at 250 390-5228 or lisa.wall@caledonianclinic.ca. Visit our website at www.caledonianclinic.ca.

NORTH VAN—FP LOCUM

Physician required for the busiest clinic/family practice on the North Shore! Our MOAs are known to be the best, helping your day run smoothly. Lucrative 6-hour shifts and no headaches! For more information, or to book shifts online, please contact Kim Graffi at kimgraffi@hotmail.com or 604 987-0918.

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The Medical Clinic Associates is looking for short- and long-term locums. The medical community offers excellent specialist backup and has a well-equipped 33-bed hospital. This beautiful community offers outstanding outdoor recreation. For more information contact Laurie Fuller: 604 485-3927, clinic@tmca-pr.ca, website: powellrivermedicalclinic.ca.

RICHMOND—BEST CLINIC TO WORK IN IN RICHMOND

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SOUTH SURREY/WHITE ROCK—FP

Busy family/walk-in practice in South Surrey requires GP to build family practice. The community is growing rapidly and there is great need for family physicians. Close to beaches and recreational areas of Metro Vancouver. OSCAR EMR, nurses/MOAs on all shifts. CDM support available. Competitive split. Please contact Carol at Peninsulamedical@live.com or 604 916-2050.

SURREY/DELTA/ABBOTSFORD—GPS/SPECIALISTS

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VANCOUVER/RICHMOND—FP/SPECIALIST

The South Vancouver Medical Clinic seeks family physicians and specialists. Split is up to 80/20. Closing your practice? Want to work part-time? Join us to see only booked patients or add walk-ins for variety. Oscar EMR. Positions in Richmond also available. Contact Dr Balint Budai at tgr604@gmail.com.

VICTORIA—GP/WALK-IN

Shifts available at three beautiful, busy clinics: Burnside (www.burnsideclinic.ca), Tillicum (www.tillicummedicalclinic.ca), and Uptown (www.uptownmedicalclinic.ca). Regular and occasional walk-in shifts available. FT/PT GP post also available. Contact drianbridger@gmail.com.

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VANCOUVER (DOWNTOWN)—GP OR SPECIALIST

Space for lease in the Burrard Medical Building (1144 Burrard St. opposite St. Paul's Hospital). Competitive rates negotiable. Various office sizes available, 450 to 3000 sq. ft. Management will renovate to suit. Contact Guy O'Byrne at guy@realacorp.com, 604 734-6695 (office), or 604 728-0620 (cell).

vacation properties

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miscellaneous

ABBOTSFORD—BECOME A MINDFULNESS SPECIALIST

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search and best practises. Registration is open for the September 2019 start. Spaces limited. To learn more, email seonaigh.macpherson@ufv.ca, call 604 864-4621, or visit us at www.ufv.ca/mbtl.

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Billing service available. Use several billing systems, including EMRs. Fee starts at 1.5% of paid claims, depending on complexity of billings. This fee includes rebilling unpaid and pre-edit refusals, as well as completing overage claims. Experience dealing with MSP and fee structures as well as hospital billings. Contact 778 886 4993.

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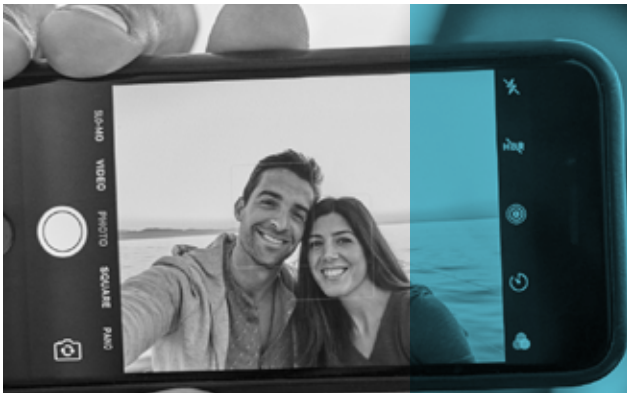
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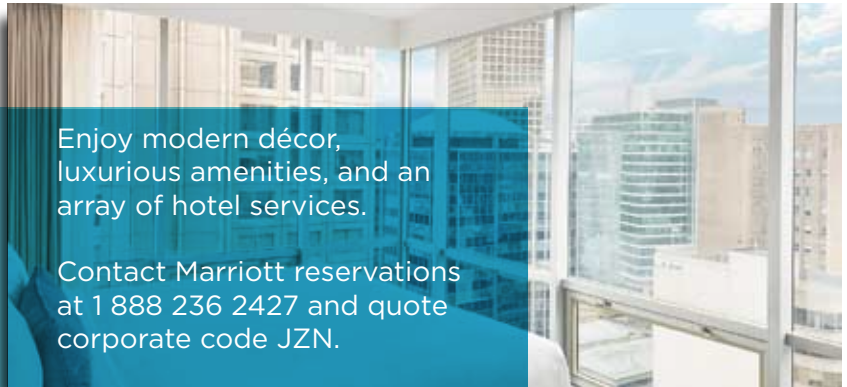
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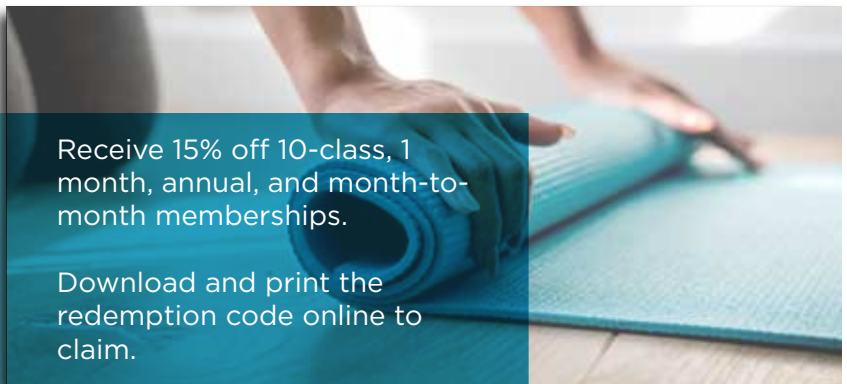
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