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Addressing adverse childhood experiences in BC: Practical approaches

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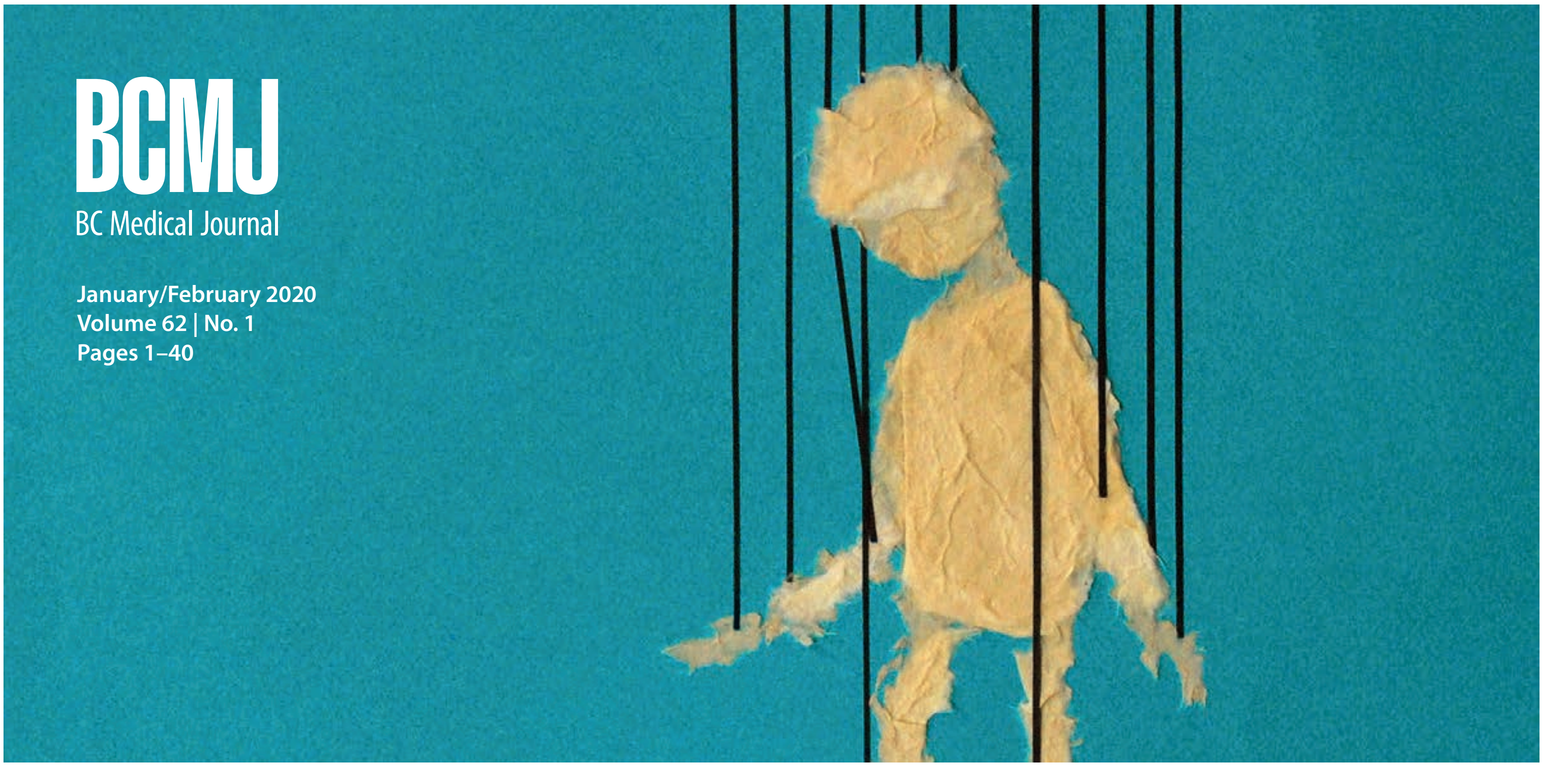

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ON THE COVER
Addressing adverse childhood experiences (ACEs) in BC: Practical approaches
Physicians can mitigate the impact of past traumatizing events on their patients by incorporating trauma-informed practice in their clinics. Article begins on page 14.

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Gene editing will likely become standard treatment for single genetic point mutations. Article on page 39.

CLINICAL

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2020 vision, and beyond

Pondering about a new decade on New Year's Day, I thought to myself that not much has changed in the last 10 years. I then shifted on my couch, pointed the remote control at my large-screen TV, and tried to decide between Netflix, Crave, or Amazon. Well, maybe some things have changed. I had to admit that the 2010s included many personal life changing events—I remarried, had two grandchildren, and lost both of my parents.

But on the professional front, is my 2020 general practice so different than it was in 2010? One major change has been the rapid expansion of medications to treat type 2 diabetes. Previously it was metformin, glyburide, then insulin. Now the list is quite impressive and includes DPP-4 inhibitors, GLP-1 receptor agonists, SGLT-2 inhibitors, and stop-stuffing-your-facers. Also notable is the expansion of insulin pump use and, more recently, cutaneous blood glucose sensors—can an external pancreas be far behind? If forced to, I would label the last 10 years as the "mab" decade. Medications using monoclonal antibody technology have exploded onto the scene and, depending which antigen is being targeted, are being used for cancer, autoimmune conditions, and inflammatory diseases. As an aside, I have to laugh at some of the American TV commercials that depict an elderly lady with rheumatoid arthritis frolicking in the sand followed by a minute explaining how grandma could die if she takes "expensivemab."

The past decade also marked our ability to cure hepatitis C. This chronic viral disease led to many cases of cirrhosis, liver failure, and cancer, so what a gift for patients to be able to get rid of this dangerous infection. We also now have a prophylactic medication to reduce the likelihood of HIV transmission in high-risk individuals. Apparently an Ebola vaccine has also been developed and is ready for use.

The exciting world of gene therapy has become a reality.

On a broader scale, the exciting world of gene therapy has become a reality. CRISPR technology allows DNA to be edited by snipping off and replacing genes. The DNA of mosquitoes and mice has been tweaked looking for ways to control malaria and to treat sickle cell disease. Human applications are sure to follow. In addition, therapies using harvested genetically engineered immune cells to target certain tumors are now available. Along the same lines, drugs that release the human immune system by targeting its normal inhibitors are being developed.

On the surgical side there has been an explosion of procedures using scopes instead of incisions. Never has more been done through less. The use of robotic surgery is also expanding. Even 3-D printing is getting in on the action with the production of artificial limbs.

An area that has changed very little, however, is the challenge of finances and costs. Many of these therapies have been priced out of reach of all but the privileged few. Socialized medicine is struggling to keep pace with an ever-expanding array of new and costly therapies.

Regardless of the challenges to be faced and the advances to be made, this decade will likely be the last of my medical career, and I look forward to seeing how medicine evolves as I accelerate over and down the hill. Here's to the roaring '20s! ■

—David Richardson, MD

A constitutional solution for an ailing health system?

What is already one of the longest trials in Canadian history will enter its fourth year in 2020. The similar *Chaoulli* case in Quebec took under 6 weeks. Two main questions are being asked. One is whether Canadians suffering on wait lists outside of Quebec should have the same protection under the Charter of Rights and Freedoms that the Supreme Court of Canada granted to residents of Quebec. The second is whether it is lawful for a government to legislate itself a monopoly on the funding of medical care, promise timely access, fail to deliver it, and then outlaw a citizen's right to access care for themselves.

The trial will go down in history for many reasons. We heard a defendant's witnesses admit that a large health authority was submitting incorrect dates on booking sheets submitted to the government's Surgical Patient Registry. This made children's wait lists appear shorter than they are. We heard a government expert on ethics give evidence that wealthier productive individuals who pay more taxes should, when it comes to access to surgery, be prioritized ahead of others, including children and the elderly. We heard a defendant's expert witness (who swore under oath to be a nonadvocate) acknowledge that his affidavit evidence was researched and edited by the Chair of Canadian Doctors for Medicare, a participating respondent and intervenor in the case. The BC government also hired other "expert" witnesses who have been admonished by judges in other provinces for providing inappropriate and inaccurate evidence in court.

We heard from a surgeon who had been instructed by hospital authorities to reduce the number of consultations he sees in order to make the wait times for surgical procedures appear shorter than they were. His department also received instructions to recategorize priority 4 patients ("moderate to severe pain and functional deficit") to priority 5 ("mild pain, tolerable functional deficit") in order to make the wait lists seem more acceptable.

Few Canadians are aware that Canada is the *only* country on Earth in which there are laws that prevent its citizens from accessing private insurance. Last summer I was invited as an opening speaker at an international conference of health executives being held in Budapest. Delegates from around the world were in attendance. I was invited because of skepticism that a country like Canada could force its citizens to "suffer and die on wait lists" (a phrase from the Supreme Court ruling in *Chaoulli*). Delegates from China were particularly shocked that governments within Canada could claim sovereignty over the health of its citizens. "In China, government limits certain freedoms, but would never prevent an individual from caring for their own bodily health," they said.

Few Canadians are aware that Canada is the only country on Earth in which there are laws that prevent its citizens from accessing private insurance.

It's true that not all Canadians suffer from such restrictions. Exempted are those injured at work, federal employees, nonresidents, and federal prisoners. At trial, uncontested and unchallenged evidence was given to show that representatives of all the groups opposing us in court, including the office of the defendant (the Attorney General of BC), the leadership of Canadian Doctors for Medicare, and the opposing trade unions, used private clinics in BC.

Statistics from the Fraser Health Region showed 308 patients died on their wait list in a single year. Extrapolated nationally, that represents 6500 a year, or about 18 patients a day. In 2007, I wrote an editorial[1] in which I stated, "Injured or sick people who languish on wait lists deteriorate and cost more to treat, in both the short and long term." I argued that a major reduction in wait lists would save billions of dollars. Sadly, patients who die on wait lists represent even bigger savings.

The argument that care should be based on "need and not ability to pay" is one every physician supports. Does our government truly believe that forcing patients to die on wait lists is conforming to that principle? Government tried to block their own wait-list figures from admission at trial. They failed. Their data reveal 30 000 patients waiting longer than the maximum medically acceptable wait time. This includes patients with very urgent needs. Only 30% to 40% of patients with invasive cancers of the cervix, bladder, and prostate are treated within the maximum acceptable time. Their cancers are at risk of spreading while they wait.

In closing argument, government tried to lay the blame on doctors and patients. They described a doctor who took time off during the terminal illness of his late wife as cutting back on surgery in order to "to smell the roses." A similar attack was made on a doctor who underwent a quadruple heart bypass. The government also described patients seeking to mitigate their pain and suffering as "parasitic." Remarkably, they even claimed that judges of the Supreme Court of Canada in the *Chaoulli* case had been "discredited," citing as evidence various opinion pieces written by opponents.

The BC government justifies existing policy with some outrageous claims and assertions. One such claim is they are in pursuit of "equity," ignoring federally funded CIHI data that show low income groups have the worst access and worst outcomes in Canada. They ignore the exempted groups and their own personal and hypocritical use of private care.

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The door is open: Diversity and inclusion at Doctors of BC

As president of Doctors of BC, I receive and respond to a variety of questions from our members. I recently received a letter regarding medical school selection committee processes and the possibility of those processes being used to address downstream human resources issues. The letter reinforced for me the reasons why Doctors of BC prioritized work to examine and move forward in its diversity and inclusion processes last year.

We as a profession, and the health care system as a whole, can greatly benefit from having a diverse membership, but we need to be bold and willing to step out of our comfort zone. While we physicians are similar in many ways, there is value in seeking out the areas that make us different. There is power in diversity: every voice and every perspective has value. We know the world itself continues to change, as it has done for millennia, and maintaining the status quo has never been the answer—it certainly won't address any of our current or downstream dilemmas.

Over the last year, Doctors of BC undertook a substantive and independent diversity and inclusion engagement and review process. Our Board understood that to build a stronger and truly representative organization for physicians across the province we needed to review our foundational processes. We needed to ensure that all our members have the opportunity to share their individual skills and knowledge in a way that strengthens our organization. The Diversity and Inclusion Barrier Assessment report was released to the membership in November 2019.

Through this comprehensive process, we learned that our diversity and inclusion challenges are similar to those of many other organizations. And, while we understood upon entering this process that every aspect of medicine is important, and that every perspective has value, barriers were perceived by members. Those barriers, including those for women, younger physicians, and members from different cultures and backgrounds, have kept some from participating in our committees, Representative Assembly, and Board. If we believe that there is a varied richness of experience and perspectives in our diverse membership that would benefit our organization, then we should ensure members see themselves reflected in their leadership and advisory structures. We are, after all, Better Together.

We need to be bold and willing to step out of our comfort zone.

The Board has reviewed the Barrier Assessment report, which makes more than 50 recommendations, and accepted them all in principle, with the understanding that several require feasibility studies. We are developing a roadmap for the short-, medium-, and longer-term items, ensuring transparency for our members. An important initial step to clearly understand the diversity of our members will be collecting richer demographic data as part of our membership renewal process, likely in the 2021 renewal cycle.

Understanding the inner workings of any organization is a crucial step for anybody who wants to get involved. Many of our surveyed members stated they did not have a clear understanding of Doctors of BC's structures and processes. It is obvious, then, that working to improve member awareness of opportunities to participate within Doctors of BC could in turn improve representation.

We have some work ahead of us, both in the long term and in the short term. As a first step, we will be making it far more clear what types of committees we have and why they are important; the process to successfully apply for positions and what skills might be required; and the commitment required in terms of prep time, meeting attendance, and expected outcomes of committee work. As well, we need to do a better job of letting members know of vacant committee positions beyond the usual call for applicants.

Later steps will include looking at a number of options suggested by members to address identified barriers to participation, including travel costs, loss of clinical days, child care, and remote meeting technology. Also, we will look into developing and promoting leadership training opportunities, including mentoring and onboarding new committee members to ensure they feel welcome in meetings. We can explore reporting mechanisms for harassment or bullying behaviors, if encountered, along with educational resources to address any reported instances.

Doctors of BC is committed to showing all members that our door is open. Our overarching goal is to ensure our governance structures reflect the diversity of our members and include all voices. Together, we can work toward solutions for all the issues facing our profession. Success is a shared responsibility; we will continue to do our part as we know you are doing yours. ■

—Kathleen Ross, MD
Doctors of BC President

Letters to the editor

We welcome original letters of less than 300 words; we may edit them for clarity and length. Letters may be emailed to journal@doctorsofbc.ca, submitted online at bcmj.org/submit-letter, or sent through the post and must include your mailing address, telephone number, and email address. Please disclose any competing interests.

Breath of fresh air

Some major medical journals are now presenting obvious social and humanities concepts in stupefying detail, so the October 2019 issue of the *BCMJ* was a breath of fresh air. An osteopath friend once told me that one of the three differences between them and MDs was that they had a bedside manner. However, and in spite of the destructive one-problem-per-visit MSP rule, the humorous and ironic editorial, "The secret to Icelandic health and happiness" as well as "Transitions" and "Healthy aging" assure me there are still many docs in BC who put patients at ease and gain their confidence whatever the clinical circumstance.

On the other hand, the conclusions of "Commonly used antibiotics may lead to heart problems" are questionable and the reported findings almost certainly occurred by data-trolling chance. How could current and recent use of fluoroquinolones cause aortic and mitral valves to leak but there is no damage in patients who were previously treated with them?

—G. Frank O. Tyers, MD, FRCSC, FACS, FACC, ABS, ABTS, Vancouver

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Chaos in primary care

As all family physicians in BC can attest, we are living in a swamp of chaos in primary care. My patients can go to any clinic, real or virtual, for care. I am expected to receive third-hand information and incorporate it into the patient's chart with no financial remuneration. Any other provider can order tests and they may or may not be sent to me. If I receive them, I am expected to store the information and act on it if needed with no financial remuneration. Pharmacies can request repeat prescriptions of me without me seeing my patients. These same pharmacies are paid to review and fax requests to me and I receive nothing for my part in renewing these drugs. Insurance companies inundate me with requests for completion of ridiculously complex forms concerning my patients. Patients themselves can come to see me with two-page-long lists of concerns and expect to have them all handled in a 15-minute office visit.

As this situation evolves, it is apparent that I, as the primary provider for a specific patient, am burdened with increasing responsibilities for my patient and diminished financial resources to carry them out. This is the main reason why family medicine is in its death throes. Yes, it is all about money. If I am not deemed to be valuable to society, then why should I participate in the system? This question has been answered by the dearth of new family physicians willing to take on the traditional role of provider in our society.

We have played this game with governments for 40 years and now the jig is up, so to speak. When I retire, my 1850 patients will have nowhere to go because I will certainly not find a replacement for myself unless there is a drastic change to how I am paid. I have written to the *BCMJ* in the past outlining this very point but will now reiterate the message.

If I am to be the primary provider for a patient, then I deserve to get an annual fee or stipend specifically for this task. This fee must be great enough for me to be incentivized to actually take on the role of organizer and main health provider for my patient. Also, if I am the main primary care provider for my patient, then it is my patient's duty to see *me* and not an anonymous provider for their primary care. If they choose to use another provider, then MSP should not pay for this privilege.

If I am this designated and remunerated provider, then it is my duty to be organized into a provider group that can guarantee 24/7 access to primary care for my patient. I have outlined this arrangement of designated provider working within a group and offering 24/7 primary care in articles I have written, published in the *BCMJ*.

This idea still does not have any traction in the new primary care networks (PCN) being pushed out the door by the Ministry of Health. This is why the new networks will fail. Let me be clear: these new networks will fail because they do not give this dedicated money to the specified providers as outlined above. A lot of money is being spent to develop these networks, but since it is not going to benefit primary providers the networks will not, in my opinion, get the necessary uptake by primary providers.

I recently hired a lawyer in Vancouver for some professional work. He did a good job and charged me $425/hour for his services. Just think what life would be like for family physicians if we were remunerated at this rate! It is what we deserve, but governments have beat on us for so long that we actually believe we are not worth very much.

I was involved in our PCN development on South Vancouver Island until it became evident that the ministry wanted family physicians to lead and organize medical homes for their patients and not be remunerated for their efforts. My suggestion was that participating physicians should receive an annual capitated stipend for participation based on their individual patient panels. I had worked this out to be $62 a year per patient. This would mean that if a physician had 1000 patients, that physician would be paid $62 000 year to be part of the PCN.

Even this amount would not really compensate for the added work that family physicians do, but it would be a start. This was rejected out of hand by the ministry. This amount would have almost put BC family physicians on par with Alberta, but still a long way behind those in Ontario. So, good luck to all the people who want to improve primary care. Babylon Health, pot clinics, and Copeman Healthcare Centres beckon. There is always an alternative to the suicide of family medicine as it presently exists in BC.

—Robert H. Brown, MD, CCFP
Sidney

GPSC replies

In his letter, Dr Brown makes some valid points. Family practice is facing many challenges. But is it in its death throes? In my opinion, the answer is no. The value of primary care as laying the foundation for efficient, effective, and sustainable health care is well supported by evidence and is now being acknowledged broadly by government policymakers, health care administrators, and our medical associations as we plan for the future.

The reality is that change, which is often messy, is needed. That is where we find ourselves now. We are in a period of significant change not seen for decades, and it can feel chaotic. But I believe that it will lead to a primary care system that better supports family doctors and the teams that work with them to better meet the needs of the patients we serve. I would like to provide some perspective on some of the issues and what is currently happening.

First, we know that family doctors are frustrated by mounting demands and system challenges that affect our ability to work in an efficient and healthy way to deliver quality care. Doctors of BC members identified these as among the most significant contributors to physician burdens in a consultation conducted last year.

A key issue, as Dr Brown points out, is compensation: many of the things that family physicians do in support of the longitudinal care of their patients are not well supported by the current fee-for-service payment model. In response to this, the General Practice Services Committee (GPSC), a partnership of Doctors of BC and the BC government, has over the years introduced various incentives to help support family doctors in the chronic and complex care of their patients. While this has been valuable, the increase in coordination needed to deal with the large amounts of information, increased complexity in the system, and the aging population means that it is not enough. The recent introduction of the new GPSC Community Longitudinal Care Payment for fee-for-service family physicians is one step toward recognizing this.

Beyond various incentives or payments, moving away from fee-for-service to other methods of compensation is an option now desired by many physicians. A consultation process currently underway between the Ministry of Health and Doctors of BC is actively exploring the development of new compensation models, with the aim of starting to provide these options later this year.

The need for change, however, goes beyond compensation. As Dr Brown notes, physicians need to be supported by a network that enables them to provide patients with appropriate access to comprehensive care as part of their practice. The divisions of family practice, developed and supported by the GPSC, provide physician support and connections at the local level that set the foundation for this networking and for broader system partnership and planning.

Change is inevitable, and physicians are being enabled and empowered to have a significant voice in creating and leading this change. The collaborative tables set out through the Physician Master Agreement provide the opportunity for this influence. The GSPC is the leading collaborative table for primary health care transformation in BC, supporting the creation of patient medical homes and the implementation of primary care networks enabled by team-based care.

The patient medical home—the cornerstone of primary care networks—describes an ideal family practice where the physician is supported by a team of providers to provide longitudinal quality care to a defined population of patients. With the support of a team, a family doctor will be freed up to appropriately address concerns that require a physician's expertise. To support family practices to shift to team-based care in patient medical homes, the GPSC is providing in-practice coaching and supports, incentives, and technology supports.

Through primary care networks, divisions of family practice—representing physicians and practices/patient medical homes—are partnering with health authorities, First Nations, and community partners to bring health care providers together into clinical teams, to wrap services around doctors and their patients, and to collectively meet the primary care needs of their communities.

Across the province, hundreds of physicians are participating in and leading primary care change at the practice, community, and provincial levels. I believe we have the right people at the right tables to work through the challenging conversations that need to happen to ensure that the changes we make result in a more fulfilling and rewarding professional practice for physicians and the teams that work with them, make better use of system resources, and ultimately provide better care for the patients that we all serve.

The issues are real. Change is messy and it takes time. But with this level of talent, strength, and leadership among our physicians, I believe we are stepping forward together into a brighter future.

—Shelley Ross, MD
Co-chair, General Practice Services Committee

Re: Influence of breast density on breast cancer diagnosis

The authors are to be applauded for performing this study [*BCMJ* 2019;61:376-384]. They have listed some of the limitations in their methodology (Study challenges), but there are others pertinent to their conclusions.

Objective 2 was to assess the stability of BI-RADS density categories assigned to screening participants. They used a subset of the mammograms of participants age 40 to 74 obtained in 2017 using digital mammography and compared them with earlier mammograms. Density may diminish during the menopause transition.[1] They apparently did not ensure that the two examinations were either both done premenopausally or postmenopausally. This could introduce further discordance and exaggerate the calculated instability of the density assessment. Similarly, hormone therapy can increase density.[2,3] They apparently did not make efforts to avoid comparing examinations while on, and subsequent to, discontinuing hormone therapy, so additional discordance could result. The information on hormone use is collected at the time of the screening appointment, but the authors did not take this into account.

Objective 3 was to examine the influence of density on the risk of breast cancer. They included mammograms performed from 2011 to 2015, but they excluded screening rounds that followed an abnormal result. It has been shown that women with a history of a false-positive mammogram result may be at increased risk of developing breast cancer for up to 10 years after the false-positive result.[4-8] By excluding screening rounds that followed an abnormal result from the analysis, they may have underestimated the influence on breast cancer risk.

They aimed to estimate rates for screen-detected and interval cancer for participants at average risk and higher-than-average risk. But the BC Cancer Breast Screening Program (BCCBSP) limits "increased risk" only to women with a first degree family history of breast cancer.[9] It is known that women who use hormone therapy are at increased risk,[3] as are women with dense breasts.[10-12] By not acknowledging these additional risks, and including them with average risk women, the authors may have underestimated the true difference in risk between average- and higher-than-average-risk women. This may explain why there wasn't a greater difference in the interval cancer rates and why they did not show greater nodal involvement in the interval cancers.

So it may not be true that, as the authors state, "Following a normal screening mammogram, a screening participant's risk of being diagnosed with an interval breast cancer over the next screening round . . . is roughly similar at 1 year for women at elevated risk to that at 2 years for women at non-elevated risk."

Even with these limitations, they still showed that tumors in screen-detected cancers were smaller than in interval cancers and less likely to have nodal involvement, and that within the screen-detected cancers, tumor size increased with increasing density.

The authors state that, "Current Canadian breast screening recommendations do not indicate further breast screening in addition to routine mammography," but these are based on the 2018 guidelines from the Canadian Task Force on Preventive Health Care.[13] This is a committee that excludes experts funded by the federal Minister of Health through the Public Health Agency of Canada. When challenged in question period by the NDP health critic, both the Minister of Health and her parliamentary secretary insisted that, "These are not government guidelines." And indeed, BCCBSP does not follow them to the letter.[14]

In discussions with patients, family physicians should be aware that the Task Force limited their review to randomized controlled trials performed from the 1960s to the early 1990s that studied only mortality reduction as a benefit to screening. They ignored metrics on reduced morbidity, which are of considerable importance to women—fewer mastectomies, fewer axillary dissections and resulting lymphedema, and less need for chemotherapy when cancers are detected early during screening.[15-18]

This is also the case with the US Preventive Services Task Force, which considers evidence to be insufficient to recommend any adjunctive screening on the basis of breast density alone,[19] and yet 39 states now inform women of their breast density and the FDA has introduced legislation that, when passed, will require all women to be informed.[20] And many states offer supplemental screening covered by health insurance. In Connecticut, where legislation was passed in 2009, practices have been detecting three to four additional cancers missed on mammograms per thousand average-risk women with BI-RADS C and D densities.[21] This constitutes a doubling of the cancer detection rate in dense breasts; cancers that would have presented later as interval cancers with worse prognostic characteristics if undetected. Austria, France, and one state in Australia include supplemental screening ultrasound for women with dense breasts in their screening programs. Reduction of interval cancers as seen in the Japan Strategic Anti-cancer Randomized Trial (J-START),[22] is a prerequisite of reduced mortality. So to insist on waiting for results of this trial, and say that there is no evidence to support supplemental screening, is misleading.

Yes, there are false positives associated with initiation of screening ultrasound, but these diminish with subsequent screening rounds. And the associated biopsies may cause inconvenience, but they are performed as percutaneous needle biopsies with local anesthetic, are well tolerated, and are similar (or less) for most women to the discomfort of a venipuncture: a small price to pay for the opportunity of early detection. The decision to have supplemental screening, which is now an insured service in British Columbia, should be made with shared decision making between a women and her physician, with all the information above.

—Paula B. Gordon, OBC, MD, FRCPC, FSBI
Vancouver

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Authors reply

The authors would like to thank Dr Paula Gordon for her time and thought in reviewing our article and for providing valuable feedback for consideration. We agree that changes in menopausal status and hormone therapy use are known to affect assessed breast density, and physicians should consider these potential influences for patients with varying assessed density. Nevertheless, sequential variation in BI-RADS assessed density may have no apparent cause, and this is an attribute of current density assessment.

While our results were concordant with the previously reported phenomenon of population average breast density decreasing with age,[1] it is correct that we did not investigate the possibility of a concurrent influence of menopause. The observed distribution of breast density by age (Figure 3 in our article) does not confirm an aberration in the trend for each density category, but as indicated menopause may have been a factor.

Regarding a possible influence of hormone therapy, of the 62 887 mammogram pairs eligible for the determination of the stability of reported breast density, reported usage ("no" or "yes") was stable in 59 181, or 94%. This was unlikely, then, to have had a significant role in density assessment.

The reported relative risk of breast cancer for combined estrogen and progestin ranges from 1.3 to 2.0 for 5+ and 10+ years of usage respectively.[2,3] The available program data for hormone use were limited to self-reporting of current use only. It would have, therefore, been difficult to acquire reliable measures for the duration of usage, and this limitation was thus unavoidable. We do note that just under 10% of the cohort analyzed for breast cancer risk reported current hormone usage.

Currently our screening guidelines divide age-eligible women into two groups for mammography screening: average risk and higher-than-average risk (first-degree family history). We agree with Dr Gordon that within each group other factors influence an individual woman's risk of breast cancer, but we used the existing determinants of screening frequency to present our findings.

We agree that a previous false positive screen has been shown to increase breast cancer risk. This has been demonstrated externally,[4] and also by a review of over 4 million mammograms of our provincial program from 1988–2013, which demonstrated a relative risk of 1.73 after an initial false positive.[5] In clarification of our methodology, please note that such cases were *not* necessarily excluded from our analysis. The inclusion criteria of a screening round included that it began with a negative screen, but the individual may have had a false positive in the past. This was done in recognition of the further testing that these individuals would have undergone and to minimize the possibility of subsequent screening mammography performance being influenced by factors other than breast density. Our results may thus be best suited for facilitating discussion with screening participants whose most recent screen was normal, but who may have had a prior abnormal screen.

The primary aim of population breast screening is to reduce the risk of death from breast cancer among BC women. While we concur that a decrease in interval cancer is likely a requisite of reduced mortality, we also note that it does not guarantee a reduction. Reduced risk of breast cancer death is most reliably indicated by reductions in the rate of advanced cancer at diagnosis. In considering the effect of screening on advanced cancer, it is important to consider both screen-detected and interval cancers as a whole, not just those cancers detected at screening: one extra early stage screen-detected cancer does not necessarily translate into one less advanced interval cancer. We would like to clarify that we have not stated that "there is no evidence to support supplemental screening," as Dr Gordon writes in her letter. Indeed we have cited the same Japanese trial,[6] and agree that a decrease in interval cancers has been demonstrated for supplemental ultrasound in this randomized study. However, the first round of this trial, which compared mammography alone to mammography plus ultrasound, found that the addition of ultrasound resulted in a further detection (by ultrasound alone) of 61 cases of breast cancer of which 48 were early (9 stage 0 cases, and 39 stage I cases), but a reduction of only one case of stage II or worse interval cancer.

We have also referenced a meta-analysis of supplemental ultrasound[7] in order to report the increased cancer detection of this test, but we disagree that these additional cancers would necessarily present as interval cancers. The increased detection observed in the randomized trial, for example, exceeds the decrease in interval cancers.[6] The difference could include additional subsequent interval cancers, but the balance with cancers that would be detected at the next mammography screen and overdiagnosis has yet to be determined.

The authors completely agree that shared and informed decision making be facilitated as best possible, and this was a key objective of our article. Again, we are thankful to Dr Gordon for sharing her insight and for this discussion of such an important topic in breast health.

—Colin Mar, MD, FRCPC
Medical Director, BC Cancer Breast Screening Program
On behalf of all authors

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Re: WorkSafeBC's multimodal approach to chronic noncancer pain management

WorkSafeBC appears to conclude that opioids are not useful for injured workers unless they help people get back to work. This article [*BCMJ* 2019;61:176,179] contains insufficient information in making conclusions about the use of opioids to help injured workers with chronic noncancer pain return to work. Patients in this group may not be able to return to work but may sleep better, have improved mood, and have better family relationships with proper pain control. The article is also missing key information about the nature of the injuries incurred by these workers (e.g., severe electrical event, loss of limb, severe back injury, head injury). It is true that the use of opioid analgesics for chronic pain is a last resort, following treatment with rehabilitation therapy, acupuncture, etc., in all but extreme cases. Physicians are not to blame for the appalling epidemic of deaths due to street fentanyl. The current restrictions arising from the epidemic have left many patients in a painful limbo, which may lead many of them to turn to these same dangerous street drugs.

—Helen Hays, MD, CCFP, FCFP
Black Creek

Letters continued on page 12

COLLEGE LIBRARY

Online research tools

When you find yourself asking, “Is that mood disorder a seasonal mood disorder?” or “How long should I continue pharmacotherapy for seasonal affective disorder?” there are tools available to help. The differential diagnosis and treatment of mood disorders can be aided by several types of evidence-based resources, many of which you can download onto your smart phone from the College Library and slip into your pocket.

If you want to find information from one place, then you may look to resources such as DynaMed and BMJ Best Practice. Both platforms provide information about etiology and epidemiology along with diagnosis and management, all of which can be navigated through clearly laid out menus. Diagnostic criteria include differentials with quick access to additional information. If you aren’t sure that you’re looking at seasonal affective disorder, you can click over to the depression or bipolar disorder entries for a broader view. As for treatment information, DynaMed offers summaries of the evidence for each treatment, while Best Practice takes a different approach with a streamlined treatment algorithm.

If you want information on bright light therapy, Clinical Key may be of use. The app offers journal articles and abstracts while the web page contains patient handouts and clinical overviews. The *Clinical Handbook of Psychotropic Drugs Online* also offers information on bright light therapy, from definition to dosage.

If you are looking for treatment guidelines for depression, Clinical Key will also give you access to those. Closer to home, BC Guidelines has a guideline app.

For access to these resources and additional information, visit www.cpsbc.ca/library/search-materials/point-of-care-drug-tools. ■

—Chris Vriesema-Magnuson
Librarian

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

LETTERS TO THE EDITOR

Continued from page 11

Authors reply

The authors acknowledge that the current public health crisis—the opioid epidemic—is complex and multifactorial, and that prescribing patterns are not the only factors, but that they do represent one aspect of the opioid crisis.[1] The authors outlined some descriptive epidemiology of the current public health crisis of opioid overdose deaths, understanding that the current epidemiology itself is complex and that the response to the epidemic requires a multifaceted approach. Acknowledging that medical literature supports that long-term use of opioids typically yields few long-term improvements in pain and function,[2] the article aimed to introduce multimodal approaches for patients with work-related or non-work-related chronic noncancer pain, to introduce the WorkSafeBC physician hotline for community prescribers (who manage patients with chronic noncancer pain), and to inform community physicians of a teaching module developed by WorkSafeBC that delivers educational outreach to community physicians in supporting their patients with chronic noncancer pain. These evidence-based educational modules available to community physicians, pharmacists, nurse practitioners, and other health care providers provide an evidence-based multimodal approach to pain management for patients and cover both the pharmacologic and nonpharmacologic treatments, the educational materials, and the current College standards on opioid prescribing.[3]

—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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EDITORIALS

Continued from page 5

Supporters of the status quo attempt the fearmongering strategy of citing a US-style system as the inevitable outcome. They disregard the experience in other universal systems, where a little private sector competition often combined with wait-time guarantees results in vastly superior access and outcomes. Following the *Chaoulli* case, Quebec was pressured to create care guarantees. The US bogeyman scenario did not happen.

A CMA poll after *Chaoulli* showed a significant majority of the public, and 83% of physicians, supported the outcome. A 2018 Ipsos poll (mirroring a similar poll in 2012) showed that three of every four Canadians support our litigation. In BC, we have 80% support. When a government spends an estimated $60 million plus in legal costs in an effort to oppose the will of 80% of its people, it makes one wonder what kind of democracy we live in. ■

—Brian Day, MB

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Beyond the plate: Canada's food guide and health equity

It has been a year since Health Canada released the new Canada's Food Guide, which includes the "food guide snapshot" and accompanying web-based tools. The tools take a broad approach to healthy eating and its complexities; however, the underlying factors that affect food choices, such as race, culture, physical environments, and income (i.e., the determinants of health) are not addressed in the public-facing tools.

Health Canada has included a discussion of health inequities and the determinants of health in Canada's Dietary Guidelines for Health Professionals and Policy Makers, a companion document to the food guide. The guidelines state that "addressing the determinants of health and reducing health inequities is required to help Canadians make healthy food choices."[1] Household food insecurity, which is primarily due to the lack of income to buy healthy food, and limited access to traditional Indigenous foods due to the impacts of colonization, are two inequities highlighted in the guidelines.[1] These are both food security priorities at the BC Centre for Disease Control.

Incorporating the dietary guidelines into your practice

Understand the circumstances that affect client's food choices

As the common first point of contact for people accessing the health care system, physicians play an important role in understanding the determinants of health (e.g., food insecurity) that may prevent their clients from accessing a healthy diet. The prevailing approach to addressing food insecurity is to refer people to charitable food outlets such as food banks; however, these are short-term programs and have limited reach because of stigma and other barriers.[2] Research shows only 21% of food-insecure households access food banks and that increasing households' financial resources is a more effective solution.[2-4] Resources exist to support physicians in discussions about life circumstances that impact access to healthy food.

By influencing public policy and impacting upstream barriers to healthy eating, physicians can facilitate change at a population level.

The Kootenay Boundary Division of Family Practice's Poverty Intervention Tool helps physicians identify socioeconomic challenges faced by clients and connects them with appropriate supports and services, such as social assistance programs.[5] The Northern Health Authority also developed a resource to guide health professionals in addressing food insecurity.[6]

Advocate for healthy public policy

Physicians have a long history of advocating for policy change and are often asked by decision makers to provide evidence-based interventions. By influencing public policy and impacting upstream barriers to healthy eating, physicians can facilitate change at a population level. Pinto and Bloch provide a primary care framework to address the determinants of health at an individual, organizational, and systemic-level.[7] As well, various advocacy tools and research exist to inform advocacy efforts. For example the First Nations Food, Nutrition and Environment Study provides a number of systems-level changes to support Indigenous people's access to both healthy food and their traditional food, which supports physical, mental, and spiritual health.[8]

The dietary guidelines raise the importance of addressing the determinants of health and can support health professionals to make more informed recommendations in practice, programs, and policies. As trusted leaders, physicians can use these guidelines to amplify their voices to address inequities and in turn improve health. ■

—Henry Lau, RD

—Melanie Kurrein, MA, RD

Population Public Health, BC Centre for Disease Control, a part of Provincial Health Services Authority

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

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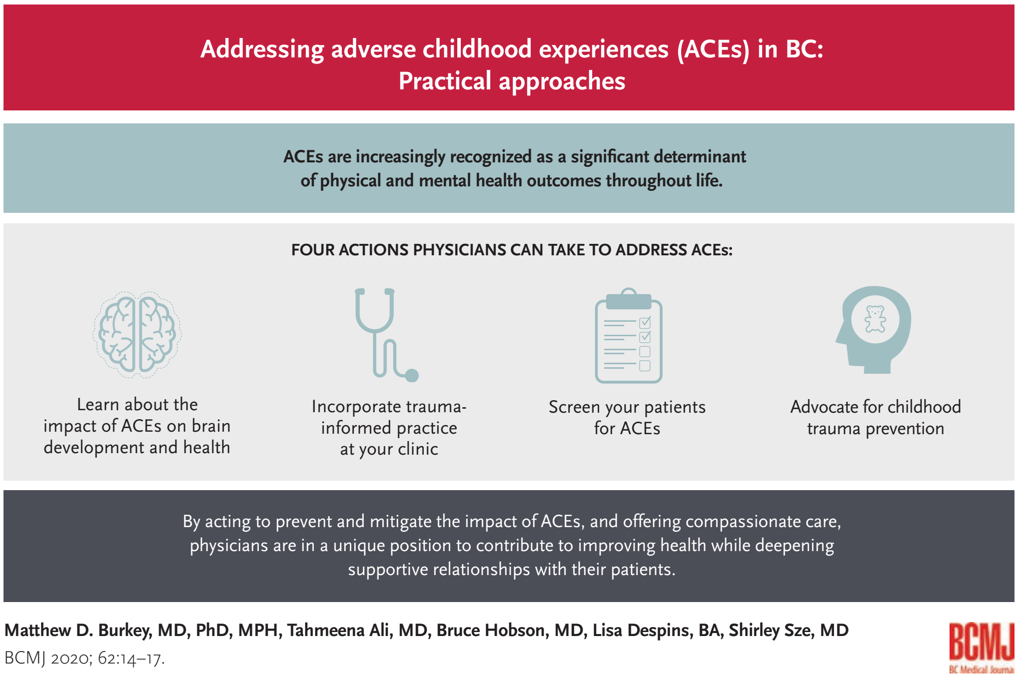
Matthew D. Burkey, MD, PhD, MPH, Tahmeena Ali, MD, Bruce Hobson, MD, Lisa Despins, BA, Shirley Sze, MD

Addressing adverse childhood experiences (ACEs) in BC: Practical approaches

Physicians can mitigate the impact of past traumatizing events on their patients and society by incorporating trauma-informed practice in their clinics and advocating for childhood trauma prevention.

ABSTRACT: Childhood experiences are increasingly recognized as a significant determinant of physical and mental health outcomes throughout life. Presentations at the Adverse Childhood Experiences (ACEs) Summit 2019 highlighted activities underway to address ACEs through the four priority actions developed after the ACEs Summit 2017: (1) promote cross-sectoral leadership, (2) implement proven interventions to prevent childhood adversity and promote resilience, (3) strengthen policies to "build better brains and build better lives," and (4) implement brain science and trauma-informed training across all sectors. As clinicians and respected experts, physicians can address ACEs in their practices and communities by learning about the impact of ACEs on brain development and health, incorporating trauma-informed practice in their clinics, screening their patients for ACEs, and advocating for childhood trauma prevention and improved services for those affected by ACEs. By providing compassionate care and acting to prevent and mitigate the impact of ACEs, physicians can improve health outcomes and deepen supportive relationships with their patients.



Addressing adverse childhood experiences (ACEs) in BC: Practical approaches

ACEs are increasingly recognized as a significant determinant of physical and mental health outcomes throughout life.

FOUR ACTIONS PHYSICIANS CAN TAKE TO ADDRESS ACEs:

- Learn about the impact of ACEs on brain development and health
- Incorporate trauma-informed practice at your clinic
- Screen your patients for ACEs
- Advocate for childhood trauma prevention

By acting to prevent and mitigate the impact of ACEs, and offering compassionate care, physicians are in a unique position to contribute to improving health while deepening supportive relationships with their patients.

Matthew D. Burkey, MD, PhD, MPH, Tahmeena Ali, MD, Bruce Hobson, MD, Lisa Despins, BA, Shirley Sze, MD

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On 9 May 2019 the Adverse Childhood Experiences (ACEs) Summit 2019 was hosted by the Child and Youth Mental Health and Substance Use (CYMHSU) Community of Practice, an initiative of the Shared Care Committee (a Doctors of BC and BC government joint collaborative committee). The summit brought together over 500 physicians, allied health professionals, education representatives, and government leaders from across BC to provide updates and spur action on addressing ACEs.

ACEs defined

Adverse childhood experiences are traumatizing events that occur during childhood and adolescence. To date, research has focused primarily on three broad categories of ACEs: abuse (emotional, physical, or sexual), neglect, and household dysfunction (e.g., divorce, parental conflict, substance abuse).[1] Exposure to ACEs without adequate support leads to prolonged activation of the body's stress response systems. The sustained activation of stress response systems resulting from ACEs has been shown to cause long-term changes in cortisol reactivity and immune function, and to affect development of brain structures essential for learning and memory.[2]

The term "adverse childhood experience" came into use in the late 1990s after a landmark epidemiological study of over 9000 adults brought the issue into the public health spotlight.[3] This study in a primarily white, middle-class population in California (and a number of subsequent studies in other populations) found that ACEs are common: more than half of participants reported at least one ACE, and a quarter reported two or more. Results of the study demonstrated dose-response relationships between the number of ACEs and higher rates of multiple health behavior risk factors, mental health and substance use disorders, and chronic diseases, including cancer, heart disease, stroke, and COPD. For example, individuals with exposure to four or more ACEs had a fourfold to twelvefold increased risk of drug abuse, depression, and suicide attempts.[3] Individuals with six or more ACEs died nearly 20 years earlier than those with no reported ACEs.[1]

In addition to individual health and emotional impacts, ACEs have societal impacts. Adolescent and adult survivors of child abuse and neglect are more likely to perpetrate acts of violence, crime, and aggression.[4] A recent meta-analysis estimated that ACEs account for 41% of the population-attributable risk for substance use disorders in North America.[5] The same meta-analysis estimated the total annual economic costs of ACEs in North America at US$748 billion, with most costs (more than 75%) resulting from patients with two or more ACEs.

Given the prevalence of ACEs and the many negative health, emotional, and societal impacts, an important question emerges: what can be done about ACEs? At first glance, these past traumatizing events do not appear to be amenable to intervention. Indeed, once an ACE has occurred, it cannot be reversed or "fixed." However, evidence is emerging from scientific studies and clinical practice that ACEs can be prevented and their harm mitigated, including in primary care settings.[6] Moreover, those affected by ACEs often suffer in silence and benefit greatly from compassionate, caring, and understanding interactions with others. This applies especially to interactions with health care professionals.

Addressing ACEs in BC

Two ACEs summits hosted by the CYMHSU Community of Practice in November 2017 and May 2019 brought together experts, clinicians, policymakers, and people with lived experience of ACEs to share promising practices and build coalitions to address ACEs in BC.

Several ACEs Summit 2019 presentations highlighted activities underway to address trauma through the four priority actions identified in the consensus statement[7] developed after the ACEs Summit 2017: (1) promote cross-sectoral leadership, (2) implement proven interventions to prevent childhood adversity and promote resilience, (3) strengthen policies to "build better brains and build better lives," and (4) implement brain science and trauma-informed training across all sectors **[Table]**.

What physicians can do

In BC and elsewhere, physicians are advocating for trauma prevention and implementing ways to support their patients affected by ACEs. Identifying ACEs in patients can sometimes help explain poor treatment responses to ongoing physical and mental health issues. Physicians are also able to develop a more empathetic

TABLE. Priority actions from the ACEs Summit 2017 consensus statement[7] and the related key activities now underway to address adverse childhood experiences (ACEs) in BC.

Priority actions	Key activities
1. Promote cross-sectoral leadership	The Ministry of Mental Health and Addictions is developing a strategy to identify principles and a course of action, including trauma-informed practice changes, applicable across sectors.
2. Implement proven interventions to prevent childhood adversity and promote resilience	The Ministry of Health is developing strategies to prevent adversity and build resilience across the continuum of care. Preventure—an evidence-based program for preventing early substance use—is being delivered by Interior Health and school districts in the Interior region.
3. Strengthen policies to "build better brains and build better lives"	The Department of Psychiatry at BC Children's Hospital has introduced trauma-informed practice for all inpatient and outpatient programs. The Ministry of Education is piloting Compassionate Learning Communities to promote trauma-informed practice in schools.
4. Implement brain science and trauma-informed training across all sectors	The Practice Support Program is developing modules and the Guidelines and Protocol Advisory Committee is developing guidelines with strategies for physicians to identify and support patients affected by ACEs.

Dr Burkey is a clinical assistant professor in the Department of Psychiatry at the University of British Columbia. He is also a child and adolescent psychiatrist in Williams Lake and medical lead for Child/Youth Mental Health, Northern Health. Dr Ali is a full-service family physician in South Surrey. She is also chair of the White Rock–South Surrey Division of Family Practice, and a clinical instructor in the Department of Family Medicine at UBC. Dr Hobson is a retired family physician and medical director of UBC CPD Program Services and the Health Data Coalition. Ms Despins is a communications officer for the Shared Care Committee, Doctors of BC. Dr Sze is a family physician and a clinical assistant professor in the Department of Family Practice at UBC. She is also chair of the ACEs Working Group of the Child and Youth Mental Health and Substance Use (CYMHSU) Community of Practice. Drs Ali, Burkey, Hobson, and Sze are all active members of the ACEs Working Group and were involved in planning the ACEs Summit 2019.

This article has been peer reviewed.

approach to patients undergoing stressful care situations when they recognize that growing up in a dangerous setting can lead to behaviors such as agitation, withdrawal, and defensiveness. Understanding a patient's past experience and responding appropriately to the consequent behaviors helps to deepen the therapeutic relationship with such a patient. In fact, compassionate relationships are central to preventing and treating ACEs in both children and adults.[8] Changes to the physician's approach and the treatment setting, as well as to trauma-specific interventions, can aid healing and improve outcomes for patients affected by ACEs.

Trauma-informed practice creates treatment settings that help instead of harm and provides a framework for approaching patients affected by ACEs or trauma during adulthood.[9] Trauma-specific treatments such as trauma-focused cognitive behavioral therapy and eye movement desensitization and reprocessing (EMDR) can help reduce psychological symptoms and improve functioning in patients experiencing significant mental health symptoms such as posttraumatic stress disorder related to ACEs.[10]

At the population level, prevention presents the greatest opportunity to address ACEs, which persist largely through intergenerational patterns. Some risk factors for ACEs, such as parental mental illness and substance use disorders, present treatable target conditions in health care settings. A number of preventive interventions—from parenting education to community preschools and high-quality early childhood programs—have demonstrated effects on lowering rates of child abuse.[11] However, the largest and broadest community-wide impact on ACEs comes from addressing underlying social determinants of health such as poverty, food security, education, discrimination, and safe housing.[12] Economic modeling suggests that investments in prevention could result in large benefits to population health and the economy: a 10% reduction in ACE prevalence in North America would lead to a corresponding reduction of 1 million disability-adjusted life-years equivalent to savings of US$56 billion.[5]

So what specific steps can physicians take to prevent and mitigate the effects of ACEs? Physicians can learn about the impact of trauma on brain development, incorporate trauma-informed clinical practice in their work, screen patients for ACEs, and advocate for childhood trauma prevention (see Resources).

Understanding the role of ACEs in the "difficult" behaviors of those around us—both patients and co-workers—can lead to greater compassion and better care.

Learn about the impact of trauma on brain development and health. There was broad consensus at the ACEs Summit 2019 that learning about the impact of trauma on brain development, behavior, and health outcomes is a critical first step for all practitioners in health, education, and social services. Understanding the role of ACEs in the "difficult" behaviors of those around us—both patients and co-workers—can lead to greater compassion and better care.

Incorporate trauma-informed practice at medical clinics. Given the prevalence of ACEs and the effects of other forms of trauma (e.g., colonization, stigmatization, discrimination), a proactive "universal precautions" approach can help make the medical clinic a psychologically safe, healing space for all patients. Trauma-informed practice is based on four principles:

- Trauma awareness.
- Emphasis on safety and trustworthiness.
- Opportunity for patient choice, collaboration, and connection.
- Strengths-based approach and skill-building.[9]

These principles should be considered by physicians and clinic staff.

Screen patients for ACEs. Screening for ACEs as part of comprehensive history-taking is becoming a common clinical practice and is reported to be well received by patients. Identifying ACEs helps physicians understand a critical contributor to health behaviors, attitudes, and outcomes. Moreover, patients often report that when a clinician asks about ACEs it demonstrates an interest in their past experiences. Screening tools can be incorporated into routine office procedures and may be of particular use at prenatal appointments for early identification and support during a critical period, and for patients with complex chronic diseases. While time constraints are often cited as a barrier to screening for ACEs, a study of clinics that routinely screened for ACEs found that fewer than 10% of patient encounters were prolonged by more than 5 minutes when trauma was identified.[13]

When patients report ACEs, physicians can respond with compassion and then listen (e.g., "It sounds like you went through some rough times as a child. I'm really sorry that happened. That should never have happened to you. How do you think your experiences are affecting you now?"). Physicians can also determine what trauma-specific treatments are available through local community organizations and public service agencies (e.g., the Canadian Mental Health Association, health authority mental health centres, child and youth mental health teams of the Ministry of Children and Family Development).

Advocate for childhood trauma prevention. Finally, physicians can be effective advocates to bring about greater understanding of ACEs and develop resources for prevention and supports in their communities. Physicians are well positioned to educate their communities and clinic colleagues and staff about the health and developmental impacts of ACEs.

Support for physicians

In BC the CYMHSU Community of Practice supports physicians with local education initiatives and unifies the physician voice to advocate at the provincial level. The Community of Practice also networks, shares information, and engages in online discussions via webinars and the Slack platform (https://slack.com/intl/en-ca/features). As well as taking advantage of CYMHSU resources, physicians can create self-healing communities where they live and work. A self-healing community intentionally uses culture and strengths to collaboratively build a sense of belonging, as seen in Cowlitz County, Washington, where many health and social problems were overcome after the county "held education events to learn about the science of adversity, hosted networking cafés, organized neighborhood residents and linked service strengths across disciplines."[14]

Summary

ACEs are common and can lead to premature death and disability, both of which affect individuals, families, and society.[4,5] The ACEs summits in BC in 2017 and 2019 have highlighted system-level priority actions to address the impact of childhood trauma: (1) promote cross-sectoral leadership, (2) implement proven interventions to prevent child adversity and promote resilience, (3) strengthen policies to "build better brains and build better lives," and (4) implement brain science and trauma-informed training across all sectors.

The scientific literature indicates that caring, connected relationships—in both personal and professional spheres—along with evidence-based prevention and treatment interventions make a difference. Physicians can play a major role in addressing ACEs: both in the clinical work they do and in their broader roles as advocates, citizens, family, and community members. ■

Resources for addressing adverse childhood experiences (ACEs)

Learn about the impact of trauma on brain development and health

- Join an ACEs 101 webinar through the Child and Youth Mental Health and Substance Use (CYMHSU) Community of Practice. Contact ejanel@doctorsofbc.ca to sign up.
- Enroll in the free online Brain Story Certification course: www.AlbertaFamilyWellness.org/training.
- Look into the science of toxic stress provided by the Center on the Developing Child: https://developingchild.harvard.edu.

Incorporate trauma-informed practice at your clinic

- Review practical tips and scripts on communicating in a trauma-informed manner: https://equiphealthcare.ca/key-resources.
- Implement changes with the help of the Trauma-Informed Practice Guide: www.bccewh.bc.ca/2014/02/trauma-informed-practice-guide.

Screen your patients for ACEs

- Use the ACE Questionnaire to find out if a patient has had an adverse childhood experience: www.ncjfcj.org/sites/default/files/Finding%20Your%20ACE%20Score.pdf.
- Adapt the resource developed by the Kootenay Boundary Division of Family Practice, Adverse Childhood Experiences—A Toolkit for Practitioners, for your context: https://divisionsbc.ca/sites/default/files/Divisions/Kootenay%20Boundary/ACEs%20Booklet%20v5_Electronic.pdf.

Advocate for childhood trauma prevention

- Join the CYMHSU Community of Practice to advocate with other BC physicians: www.sharedcarebc.ca/our-work/spread-networks/cymhsu-community-of-practice.
- Form a local task force to create a self-healing community in your area: www.rwjf.org/en/library/research/2016/06/self-healing-communities.html.
- Review the Centers for Disease Control recommendations for preventing ACEs: www.cdc.gov/violenceprevention/pdf/CAN-Prevention-Technical-Package.pdf.

Competing interests

None declared.

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Konia Trouton, MD, Rosanne Beuthin, RN, PhD, Marney Thompson, MA, Anne Bruce, RN, PhD, Chloe Lemire-Elmore, MD, Amelia Zhang, Helena Daudt, PhD

Attitudes and expectations regarding bereavement support for patients, family members, and friends: Findings from a survey of MAID providers

> Engaging in the full range of experience—living and dying, love and loss—is what we get to do. Being human doesn't happen despite suffering. It happens within it. —Lucy Kalanithi[1]

ABSTRACT

Background: Bereavement following medical assistance in dying (MAID) is not fully understood. Legislation does not require providers to offer bereavement support and our health care infrastructure does not facilitate a role for physicians in this. The clinician providing MAID is often not the primary care provider and frequently has no previous or ongoing contact with the patient or family, factors that may contribute to a gap in bereavement support. In the first 2 years after MAID became legal, assisted deaths on Vancouver Island accounted for 3.6% of all expected deaths, a rate higher than elsewhere in Canada, and Island Health assembled a list of physicians providing MAID. Given the availability of data on providers and the relative lack of research on bereavement support, a study was proposed to explore current physician practices and expectations for providing bereavement support for families of patients choosing assisted dying.

Methods: A quality improvement study was designed to determine if physicians providing MAID offer bereavement support, what beliefs and attitudes underpin the support physicians provide, and what physicians believe is expected of them regarding bereavement support. A survey was developed that included statements to be ranked on a Likert scale and open-ended questions that required narrative responses. On 5 September 2019, an email invitation to complete the survey was sent to 34 physicians on the MAID provider email list maintained by Island Health. After survey responses were collected, descriptive statistics were calculated and narrative responses were analyzed.

Results: Survey respondents included 18 physicians who had provided MAID services between June 2016 and June 2018 (15 prescribers and 3 assessors). The majority agreed that patients, family members, and friends need bereavement support in the days and weeks before and following an assisted death. While the importance of bereavement support was acknowledged by 13 respondents (72.2%), the same number indicated they have neither the time nor the resources to provide this kind of follow-up. For physicians providing some form of bereavement support, most referred people to resources (community programs, grief counseling, online information) or provided printed information. Notably, 12 respondents believed providing bereavement follow-up to be part of their professional and moral obligation to families. When asked if bereavement was different for an assisted death, 13 respondents said that in their experience

Dr Trouton is a family physician who provides medical assistance in dying (MAID) and a clinical professor in the Department of Family Practice at the University of British Columbia. Dr Beuthin is a clinical nurse specialist at Island Health who specializes in end-of-life care. Ms Thompson is the director of Psychosocial Services at Victoria Hospice. Dr Bruce is a professor and researcher in the School of Nursing at the University of Victoria. Dr Lemire-Elmore is a physician who provides MAID and a hospitalist at Victoria General Hospital. Ms Zhang was a research assistant at Victoria Hospice when this article was written. Dr Daudt is director of Education and Research at Victoria Hospice.

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it was. Reasons for this included the newness and unfamiliarity of MAID and the potential for stigma. Respondents also shared ideas about dedicating and/or designating nonphysicians to offer bereavement support, enhancing bereavement services delivered by other groups and organizations, and generating accessible supports from the health authority in the form of printed materials or default follow-up services.

Conclusions: According to survey respondents, bereavement following a medically assisted death is unique and bereavement support is needed. While most respondents consider providing bereavement support to be a moral and/or professional obligation, they also believe this responsibility should be shared between the family physician and MAID provider. In response to findings from this study, a guide for patients and families experiencing MAID is now available to support healthy grieving.

Background

Medical assistance in dying (MAID) became legal in Canada in June 2016.[2] Because MAID is a relatively new treatment option, it is unclear at this time what, if any, bereavement support is being made available to patients, their family members, and friends. While providing support to families following MAID is considered by some physicians to be integral to end-of-life care and morally important, our health care infrastructure does not facilitate a role for physicians in bereavement. There is no standard of care for attending to anticipatory grief or ensuring bereavement support for patients and families who experience MAID. Furthermore, a clinician providing MAID is often not the primary care provider and frequently has no previous or ongoing contact with the patient or family. Together, these factors may contribute to a gap in bereavement support.

Vancouver Island experience

In the first 2 years after MAID became legal, assisted deaths on Vancouver Island (population 765 000) accounted for 3.6% of all expected deaths, a rate higher than elsewhere in Canada.[3]

The MAID process and model employed on the island relies on considerable transparency and flexibility for all involved. The names of physicians providing this service can be accessed through the website of the health authority (Island Health) or other online or print sources, and patients can self-refer for an assisted death. The MAID process can be initiated with or without the involvement of the family physician. This is an important consideration because up to 30% of people on Vancouver Island do not have a family physician. The model allows any physician to provide MAID once required education is completed. This approach differs from other Canadian jurisdictions, where physicians providing MAID may be hired by a licensing body or government authority as part of a specialized team. In many areas, patients contact a central coordinating centre for referral to a clinician for formal assessment and/or provision of MAID.

There is no standard of care for attending to anticipatory grief or ensuring bereavement support for patients and families who experience MAID.

Island Health physicians involved in MAID are either paid on a fee-for-service basis or by salary in acute care facilities. Island Health maintains a list of physicians who have provided MAID and assists with communication among these physicians, allowing them to receive collegial support and informal contact with a large group of experienced practitioners. Island Health also has an extensive database of MAID assessments and death records.

Research to date

The majority of research addressing assisted dying focuses on the experiences and perspectives of the health care team.[4-7] There has been little study of family and friends' grief following a loved one's assisted death, or the nature of the bereavement care they receive. In Canada, the Ontario HIV Treatment Network conducted a literature review to investigate the impact of MAID on family and friends.[8] They reviewed studies in different countries, with varying legal requirements and approaches to assisted death, published from1994 to 2015. Researchers in the Netherlands examined decision making about euthanasia for family and friends and reported perceptions of a bonding experience for patients, families, and physicians; they described home visits from the physician to debrief the decision afterwards as beneficial, saying that such visits “help the survivors along in their grieving process.”[9] A study from the United States compared grief responses following assisted death or suicide and found both similarities and differences.[10] Those grieving an assisted death had more understanding, searched less for motivation behind the death, and experienced a somewhat “eased grief,” knowing that underlying illness made death an inevitability. Most viewed the cause of death as the terminal illness and not the assisted death. Those bereaved following an assisted death expressed uncertainty in discussing it with unfamiliar people as they wished to avoid aggressive debates and/or hurtful commentary, but also an appreciation of the legal safeguards supporting the practice, and a belief that their experience was quite different from those losing a loved one to suicide. In other studies, contextual factors were identified as mitigating or complicating bereavement after assisted death. The factors included social disapproval,[11] stigma[12,13] access to information,[12] involvement in decision making,[13] and whether assisted death was legal in the country.[14]

In Canada there has been limited examination of the bereavement support offered by MAID assessors or prescribers to family and friends at the time leading up to an assisted death or through the course of their grief. In one report of MAID providers conducting follow-up, there is no mention of bereavement support specifically: “Follow-up telephone calls to families several days after each medically assisted death have been very positive, with no regrets expressed by the family.”[15]

Given the relative lack of research on bereavement support, a study was proposed to explore current physician practices and expectations for providing bereavement support for families of patients choosing assisted dying.

Methods

A quality improvement (QI) study was designed to determine the following:

- Do physicians providing MAID offer bereavement support, and if so, what does this practice look like?
- What beliefs and attitudes underpin the support physicians provide?
- What do physicians believe is expected of them regarding provision of bereavement support, if anything at all?

A survey was developed collaboratively by the project team, which included two physicians who have assessed, provided, and taught MAID on Vancouver Island, a bereavement clinician from Victoria Hospice, two members of Victoria Hospice and Island Health leadership teams, and a nurse researcher from the University of Victoria. The 20-item survey included 15 statements to be ranked on a Likert scale from strongly agree to strongly disagree and 5 open-ended questions.

For the purposes of the study, bereavement support was defined broadly as any action taken by the physician intended to inform/comfort the bereaved family/friend; this included direct physician action (e.g., phone call) or indirect action (e.g., referral to counselor or social worker, provision of information sheet).

Survey questions focused on the following areas of bereavement support:

- Current practices regarding bereavement support offered to friends and family following an assisted death.
- Beliefs about professional and moral responsibility regarding bereavement support.
- Comfort level with providing bereavement support.
- Perceived strengths, gaps, and challenges physicians face in this area.
- Recommended resources to improve bereavement care for family and friends.

On 5 September 2019 an email invitation containing a link to the survey was sent to 34 physicians on the MAID provider email list maintained by Island Health. Recipients were encouraged to forward the survey to colleagues who had completed MAID assessments. Recipients were also invited to participate in an in-person, 2-hour focus group. After only one recipient expressed interest in the focus group, study funds were redirected to the development of bereavement resources for physicians to provide to patients and families.

This QI study did not require approval by a human research ethics board[16] but was registered with Island Health's QI registry. To assess risk and enhance rigor we used the ARECCI screening tool[17] to establish a screening risk score of 3, which indicates minimal risk.

Quantitative data were collated and descriptive statistics were calculated using Excel. Narrative responses were summarized and grouped for content analysis of key messages.

TABLE. Responses of 18 Vancouver Island MAID providers (3 assessors and 15 prescribers) to selected statements about the need for bereavement support before and after an assisted death.

Statements	Agree % (n)	Neither agree nor disagree % (n)	Disagree % (n)
Before the assisted death, the patient, family members, and friends need bereavement information, support, and/or counseling.	72.2 (13)	16.7 (3)	11.1 (2)
At the time of death or in the hour or two immediately following, family members and friends who are present need bereavement information, support, and/or counseling.	33.3 (6)	50.0 (9)	16.7 (3)
In the days or weeks following an assisted death, family members and friends need bereavement information, support, and/or counseling.	66.7 (12)	22.2 (4)	11.1 (2)
I have the time and resources needed to address the bereavement needs of the friends and family members of the deceased following an assisted death.	16.7 (3)	11.1 (2)	72.2 (13)

Results

Of the 34 physicians who had provided MAID services between June 2016 and June 2018 on Vancouver Island, 18 completed the survey (15 prescribers and 3 assessors), for a response rate of 52.9%. The average number of years each respondent worked as a physician was 16 (range 4 to 38 years). All respondents were hospitalists or general practitioners with a special interest and practice in family medicine, geriatric medicine, or palliative care. Thirteen respondents (72.2%) indicated they were not the primary care provider or most responsible practitioner for the patients seeking MAID.

The majority of respondents agreed that patients, family members, and friends need bereavement support in the days and weeks before and following an assisted death **[Table]**. While the importance of bereavement support was acknowledged by 13 respondents (72.2%), the same number of respondents indicated they have neither the time nor the resources to provide family and friends with this kind of follow-up.

For physicians providing some form of bereavement support, most referred people to resources (community programs, grief counseling, online information) or provided printed information **[Figure 1]**.

Notably, 12 respondents believed providing bereavement follow-up to be part of their professional obligation (3), moral obligation (2), or professional and moral obligation (7) to families, while 6 respondents disagreed or were neutral regarding this obligation. Only 2 respondents felt family members expected bereavement support from them.

Fourteen respondents (77.7%) believed the responsibility for bereavement support lies with both the family physician and the clinician providing the assisted death **[Figure 2]**. Eleven respondents (61.1%) believed others are responsible for addressing these needs and identified spiritual care providers, counselors, and friends or family.

When asked if bereavement was different for an assisted death, 13 respondents (72.2%) said that in their experience it was. The narrative responses helped identify four themes underpinning this view:

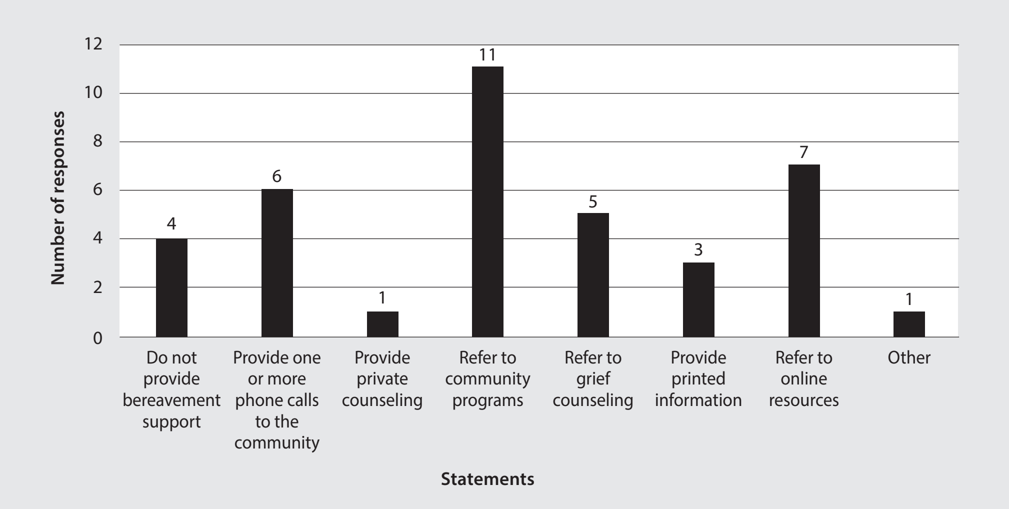

FIGURE 1. Responses of MAID providers agreeing with statements about their usual method of addressing bereavement needs after an assisted death. Note that respondents were permitted to select more than one response.

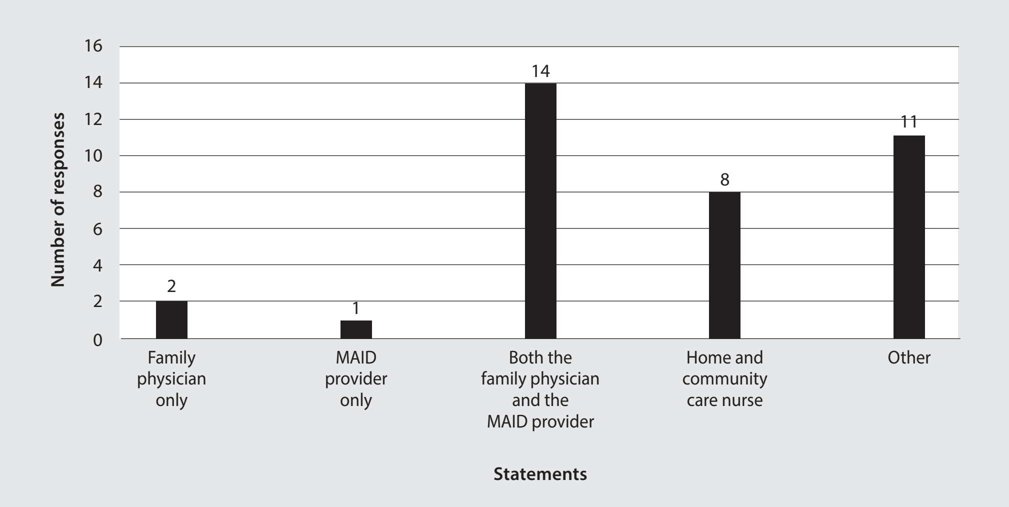

FIGURE 2. Responses of MAID providers agreeing with statements about who is responsible for addressing bereavement needs after an assisted death. Note that respondents were permitted to select more than one response.

- The newness and unfamiliarity of MAID: "The conscious decision is still new to all of us … this is a huge learning curve. We are all at various stages on this curve."
- The potential for stigma: "There is still some cognitive dissonance around MAID as an unnatural death, and families may need help to emotionally deal with this even when in intellectual agreement and support."
- The centrality of patient choice: "It involves a choice to end one's life which the family/friends must grapple with, perhaps sometimes considered a reflection on themselves thus leaving feelings of guilt, blame, inadequacy when in reality their support is a great gift."
- Less suffering, more peace: "MAID may actually be less traumatic. Depends on the family, but usually the family is more prepared and at peace."

Respondents who disagreed with the view that bereavement is different following MAID noted that "death is death," and said bereavement will depend on how accepting the family is of this choice.

Respondents offered suggestions for additional support such as a social work or counseling resources, an automatic offer of services, peer support resources, spiritual resources, and the same support as anyone who has lost a loved one in any way receives. For example, one respondent suggested that a specialized counselor or social worker "should automatically visit with the family before and after each provision and do follow-up calls. This person should be dedicated [to MAID] and not shared with the wards or any other service so they can take their time." Another respondent suggested that when "MAID assessments and procedures [occur] at hospice, contact is [already] made and families feel comfortable accessing it." In contrast to this, one respondent noted that although resources currently exist they are not always accessed by families, who either do not ask about them or do not pursue them.

Respondents who believe providing bereavement support is part of their scope of practice identified a variety of approaches, such as giving out a business card and inviting the family to make contact, identifying available resources for before and/or after the procedure, and making one or more follow-up phone calls. Respondents stated that their usual practice of addressing bereavement needs overall is shaped by:

- Having a close and ongoing care relationship with the family whereby they "can continue … conversations and check in over an extended period."
- Being familiar with death and confident in discussing the topic.
- Being able to make themselves available (although one respondent remarked that "no one has called after a MAID procedure day").

When asked about gaps in their practice of providing bereavement support, the most frequent concern was lack of time. Most physicians run full practices in addition to their MAID work and adding bereavement support before or after an assisted death would be problematic. In the words of one respondent:

> I usually do not have the time to follow up more than once and find most people's family physicians are too overtaxed

> to pick up the baton. I think we have to be conscious of the limitations of our obligations to a patient's family. I am in a care relationship with the person receiving MAID, not their family. While I feel there is a limited professional and moral responsibility to the family on the part of the physician, there is also the responsibility of the health authority to provide interdisciplinary resources to families. I cannot take all that on myself.

Respondents also shared ideas in their narrative responses about how current systems for bereavement support might be better organized by:

- Enhancing bereavement services delivered by other groups and organizations.
- Generating accessible supports from the health authority in the form of printed materials or default follow-up services.

Conclusions

The majority of survey respondents believe that bereavement following a medically assisted death is unique and that bereavement support is needed. Overall, the findings endorse the need for bereavement support, both before and following an assisted death. As earlier studies by Kimsma and van Leeuwen[9] and by Reid[15] have noted, in-person or phone contact with professionals following the death is helpful.

While most respondents consider providing bereavement support to be a moral and/or professional obligation, they also believe this responsibility should be shared by the family physician and MAID provider. Physicians on Vancouver Island who assess and provide assisted death do so in addition to their other professional duties and with deep dedication and commitment to patient-centred care. Assessing, planning and assisting a death are often time-intensive and require the juggling of multiple professional obligations and commitments. Further research is needed to better understand how physicians can share the responsibility of bereavement support before and after a MAID intervention. Clearer understanding is also needed of the perspectives of physicians who disagree or are neutral about the need to provide bereavement support. This has implications for medical education, training, and professional development. Discussions are vital regarding the limitations of obligations and where and how bereavement support should be provided.

In keeping with other studies that report stigma and social disapproval of MAID as valid concerns,[11-12] some survey respondents believe that stigma surrounds MAID. Families may need help to deal emotionally with this concern about "an unnatural death," despite their stated intellectual agreement with and support of MAID. At this early stage in the implementation of medical assistance in dying when stigma may apply, bereavement supports specifically designated for those anticipating or experiencing MAID are warranted.

Discussions are vital regarding the limitations of obligations and where and how bereavement support should be provided.

It may be that the current findings, especially those related to the uniqueness of bereavement following assisted death, reflect the newness of this option in Canada and the gradual unfolding of our collective cultural awareness and understanding, rather than evidence of a substantively different bereavement process. More research is needed to understand bereavement for families leading up to and following a planned and assisted death, and which services and professionals are best positioned to support them.

Study limitations

The survey was tested for face validity but not for reliability, and the findings may have errors associated with response bias or misinterpretation of questions. Also, while the physicians responding to the survey had expert knowledge and experience, the number of respondents was small. At the time of the study, nurse practitioners were not yet authorized to provide MAID on Vancouver Island and did not participate. Future studies will be able to include this group of providers.

Future considerations

Questions about bereavement support that still need to be considered include the following:

- Should bereavement support and/or counseling be seen as within the scope of practice for physicians providing MAID?
- What models exist where MAID providers and the primary care providers coordinate bereavement follow-up?
- What is the usual practice of family physicians regarding bereavement support outside of MAID?
- Does the contemplative time leading up to making a MAID request, or the time between the assessments and death, help to generate a sense of community for family and friends that is helpful to their bereavement?
- Does the need for bereavement support depend on the setting where the MAID death occurs (at home versus in a care facility where health professionals are more accustomed to death and dying)?
- Do we understand the role of palliative care services in pre-MAID bereavement, given that most patients choosing an assisted death have cancer and are in contact with palliative care teams? Are patients not receiving palliative care aware of bereavement support?
- Are the bereavement needs of those who request MAID but who are found ineligible or who lose capacity or who withdraw their request different from those who continue to experience MAID without interruption?
- How are the experiences leading up to and following MAID different from the experiences of a planned death that occurs after the withdrawal of life support measures in patients who have generally lost capacity and consciousness?

Bereavement guide

After hearing directly from MAID providers in the course of this study and hearing anecdotally about the experience of family members, we created a guide to support patients and families that any physician can use to support healthy grieving: www.islandhealth.ca/sites/default/files/2019-05/maid-bereavement-guide-patients-families.pdf. In addition, we are currently drawing on findings from the survey described here for another study that focuses on family member bereavement experience following MAID. ■

Competing interests

None declared.

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First Link dementia support offered by the Alzheimer Society of BC

An estimated 70 000 British Columbians have dementia.[1] Dementia has a deep impact on the lives of individuals with the diagnosis, but it also casts a large shadow over the lives of families, friends, and caregivers. It is often called "a family disease" because everyone experiences some stress watching the decline from dementia.[2] The many clinical impacts of the disease include changes in cognition, emotion, behavior, physical health, function, and social and financial well-being of individuals with dementia and of their loved ones.

The dementia journey is long and challenging. Caring for individuals with dementia means caring for both the patients and the caregivers. The care team extends from the patient and primary care provider to the primary health caregiver, family, friends, community teams, hospitals, long-term care, and palliative care. Another important resource is First Link dementia support, which is offered by the Alzheimer Society of BC.[3]

First Link referrals help physicians and other health care providers connect individuals with dementia and their caregivers to the Alzheimer Society of BC's programs and services, as well as to community resources. The goal is to help understand the diagnosis and to equip one to better cope with the changes to come. Education helps one to be prepared for the course of the disease, so that nobody walks the journey alone. First Link supports individuals with mild cognitive impairment and all dementia diagnoses.

In addition to general information about dementia, programs and services offered by First Link include:

- Individual support: Ongoing calls to help support and identify changing needs.
- Dementia education: In-person and online educational workshops on a wide variety of topics from diagnosis to end of life, including Getting to Know Dementia, Shaping the Journey, the Family Caregiver Series, and Grief and Loss.
- Support groups: In-person and telephone groups for people in the early stages of dementia and groups for caregivers.
- Minds in Motion: A social and fitness program for people with mild cognitive impairment in the early stages of dementia, to attend with a care partner.
- Information: Brochures, fact sheets, and videos, as well as quarterly newsletters including updates on events in the patient's area.
- Referrals to other community and health care services as necessary.

Throughout the progression of the disease, First Link clients receive regular, proactive contact from the Alzheimer Society of BC, and the society continues to provide relevant support as clients' needs change.

The First Link Dementia Helpline is a confidential, toll-free telephone contact with volunteers trained in dementia care. The helpline supports English, Punjabi, Mandarin, and Cantonese languages weekdays, 9 a.m. to 4 p.m.

When someone is referred to First Link by a health care provider, they will receive a call from a trained Alzheimer Society of BC staff member within a few weeks. Ongoing follow-up contact provides information about the disease, help planning for the future, tips for day-to-day living, and support services when needed. A First Link bulletin is distributed every 3 months to keep everyone informed about upcoming support and education programming, including Minds in Motion. The bulletin is regionally distributed for BC.

First Link referrals are associated with improved information on dementia and its progression, and improved access to community resources. A study has shown that people who

Continued on page 28

First Link resources

Referral information: https://alzheimer.ca/en/bc/We-can-help/About-First-Link-Referrals

Referral form: https://alzheimer.ca/sites/default/files/files/bc/generic_formalrefform_fillable_2018-03-13.pdf

Dementia helpline: https://alzheimer.ca/en/bc/We-can-help/Resources/First-Link-dementia-helpline. **English:** 1 800 936-6033, **Cantonese or Mandarin:** 1 833 674-5007, **Punjabi:** 1 833 674-5003

Bulletins: https://alzheimer.ca/en/bc/News-and-Events/Newsletters-and-updates/First-Link-bulletins

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Recognizing the value of longitudinal care: The Community Longitudinal Family Physician Payment

Multiple studies have shown that long-term, relationship-based care from a family physician results in better health outcomes for patients.[1-3] In BC, this care is largely provided by community-based family physicians who work under the fee-for-service structure and who care for a panel of patients—a role that often requires additional, nonclinical responsibilities that are not compensated through the fee-for-service billing system. In recognition of their important role in providing longitudinal care, many fee-for-service family physicians are now eligible to receive the GPSC Community Longitudinal Family Physician (CLFP) Payment.

In January 2020, eligible family physicians (as determined through billing data), received a CLFP Payment ranging from $3000 to $12 000 (with the majority receiving between $4000 and $8000). The GPSC has allocated $19.5 million annually for these payments.

Determining eligibility

Fee-for-service community-based family physicians are eligible to receive the CLFP Payment if they:

- Have billed the GPSC Portal Code (G14070) in 2018 and 2019, prior to 19 June 2019.
- Are shown to be providing longitudinal care to a group of patients through MSP billing data.

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

Payment amounts for each eligible physician will vary according to the number and the complexity of Majority Source of Care (MSOC) patients assigned to them. The MSOC methodology is commonly used by the BC Ministry of Health to measure patient attachment to health care practitioners, including family physicians.

The CLFP Payment uses the Adjusted Clinical Group (ACG) methodology to estimate the complexity of each MSOC patient associated with each eligible physician. The ACG methodology enables payment amounts to reflect a wide range of diagnoses and health conditions that can be expected to influence health care utilization. (For detailed information on ACG methodology, download the FAQ document from the webpage linked at the end of this article.)

The CLFP Payment is remitted automatically by MSP Teleplan to eligible physicians.

Payment remittance

The CLFP Payment is remitted automatically by MSP Teleplan to eligible physicians. This means physicians do not have to navigate complicated billing rules or meet additional documentation requirements to receive the payment.

The 2019 CLFP Payment was paid to the payee number where a GPSC Portal Code (G14070) was first submitted in 2019 and may be subject to business arrangements pertaining to how MSP payments paid to particular payee numbers are split between physicians and clinic owners. In these cases, physicians and clinic owners are encouraged to come to a mutual agreement on how existing business arrangements apply to the CLFP Payment.

Comprehensive care outside the community practice office setting

The GPSC acknowledges the importance of the comprehensive primary care provided by family physicians outside the community practice office setting, including maternity, in-hospital, and long-term care. In the past decade, the GPSC has continued to fund enhanced supports in these areas, providing annual funding of $7 million for maternity care, $12 million for long-term care, and $25 million for in-hospital care. This amounts to an additional $6000 to $11 000 on average per physician per year for physicians practising in those areas.

To further support in-hospital and maternity care in 2019 and beyond, the GPSC approved an additional 30% lift to select in-hospital and obstetrical fee items this year.[4]

Eligible physicians will receive those fee increases along with retroactive payments in early 2020. The GPSC will continue to consider ways to further support physicians working to provide this comprehensive scope of primary care.

Preparing for next year’s payment

The exact eligibility criteria for future CLFP Payments are currently being finalized. If eligible, physicians should continue to submit the GPSC Portal Code (G14070) on an annual basis to signify they are continuing to provide full-service family practice services to patients and confirming the doctor-patient relationship with existing patients through a standardized conversation.

Continued on page 28

Integrating specialty care into primary care: The Nuka approach

An overview of the Southcentral Foundation's gradual approach to integrating specialty services with primary care.

Robin Routledge, MD, FRCPC

In October 2018, I attended the Southcentral Foundation's (SCF) 3-day course called Behavioral Health Integration in Anchorage, Alaska, which was designed to present their Nuka System of Care (https://scfnuka.com), an approach to integrating fully collaborative psychiatric consultation liaisons into primary care. I also took the course hoping it would be an opportunity to learn how the SCF integrates some secondary and even tertiary health care into their primary care. I wondered where and how they draw the boundary between specialty care and primary care.

The word *nuka* is like the Coast Salish word *skookum*, meaning “strong” or “big.” The Nuka System of Care is a comprehensive service mostly for Indigenous people, who are the foundation's customer-owners (i.e., patients). It is important to understand how the Southcentral Foundation does this because, based on their metrics, they are a highly rated primary care health delivery system when compared with any other (as reported by Don Berwick from the Institute for Healthcare Improvement). SCF reports these changes from 2000 to 2017: 40% drop in ER visits, 36% drop in hospital admissions, 97% customer-owner satisfaction, 95% employee satisfaction, 75th to 90th percentile on many Healthcare Effectiveness Data and Information Set outcomes (www.ncqa.org/hedis). They have won the Malcolm Baldrige National Quality Award twice in the last 7 years. The award, established by the US Congress, recognizes US organizations in the manufacturing, services, small business, education, health care, and not-for-profit sectors for performance excellence. Given this commendation, we should be interested in how they do things. Their practices could be of interest and application as British Columbia moves toward patient care networks, also an example of team-based health care.

Perhaps their most significant project was reassigning the tasks in a family doctor's office. Even the most traditional office divvies up tasks—who answers the phone, who brings the patient to the exam room, who gets the chart out, who makes the first appointment, and who makes the next appointment. The SCF went much further. They slowly and incrementally brought on team members to do more and more tasks that were formerly assigned to a family physician or nurse practitioner, and this changed the relationship between primary and specialty care. They show the changes using two graphics **[Figures 1A and 1B]**.

Today, the SCF's core team centres on the customer-owner and their family [Figure 1B]. This arrangement originated with the decision to shape Nuka based on the cultural values of the Indigenous Alaskan people who own the SCF. Other examples of important Nuka values are “sharing story” (focused listening and telling) and their mantra, “it's all about relationship.” The members of an integrated primary care team are the case management support (CMS), registered nurse case manager (RN CM), certified medical assistant (CMA), and primary care provider (PCP, who may be a physician or nurse practitioner). There are seven of these core integrated primary care teams. A team's members sit together in an open area with immediate access to one another and flexibility in who will respond to any customer-owner who walks in. Customer-owners can schedule appointments, but each primary care team keeps approximately half of their appointments open each day for customer-owners who need immediate access to care.

Perhaps their most significant project was reassigning the tasks in a family doctor's office.

The SCF made changes to the traditional work flow model very gradually starting 20 years ago. The changes were guided by a commitment to:

- Seek feedback from customer-owners through regular surveys.
- Focus on whole person health care.
- Remain up to date on scientific literature (assigned to certain team members).
- Reassess work flow demands.
- Try new things by starting small and then assessing.
- Figure out how to figure things out.

The SCF gradually added support services external to the integrated primary care team but immediately available to the customer-owner. The support services now include the certified nurse midwife (CNM); community resource

Dr Routledge has been a rural psychiatrist in Duncan since 1983 and is a Doctors of BC representative on the Joint Standing Committee on Rural Issues. He is interested in primary care and team-based care as envisaged in patient care networks, and in the delivery of secondary and tertiary psychiatry. Dr Routledge was a fellow in international mental health at the World Health Organization (Geneva, 1978–79), and has been interested in systems and community development since.

This article has been peer reviewed.

specialist (CRS), who is a little like a social worker; registered dietitian; pharmacist; and behavioral health consultant (BHC).

The SCF hired two behavioral consultants 14 years ago and now has 40 sprinkled around their organization, not only located in core teams. This spread has been gradual, based on the commitments listed above, and tested for effectiveness. The behavioral health consultant's original focus was anxiety and depression, but their effectiveness has led to additional applications. Now they act like consultation liaison specialists, filling a role on the primary health team that was once performed variably by the primary care provider. They contribute to a broad range of clinical situations from advising about flossing teeth to responding to adversity or struggles with illnesses like diabetes or cancer. Their clinical orientation starts with motivational interviewing and brief solution-focused intervention, but they are ready for anything because they are supported by (and provide support to) the whole team, including the in-house psychiatry team and external specialty resources.

All BHCs have master's degrees, but there is no comprehensive university preparation for the job of behavioral health consultant, so the SCF adopted the practice of "growing their own" through constant learning, an intense onboarding process to welcome new employees, and collaboration with local universities through practicums. Clearly, the job is not for everyone. New employees are selected based on their likely fit, determined through behavioral-based recruitment interviews, which focus less on knowledge and more on personal style.

In Figure 1B, the positions shown in the dark blue ring are still within the purview of primary care, having been integrated in response to a demonstrated need and usefulness to the SCF's customer-owners. This includes on-site home health, a lactation consultant, an electronic health record coach, a pediatric nurse practitioner, colorectal screening, a pain physician, an HIV consultant, and an in-house psychiatry team. All of these professionals are readily available to the seven integrated primary care teams and the customer-owners they serve.

Specialty resources are outside the SCF primary care organization but are available through

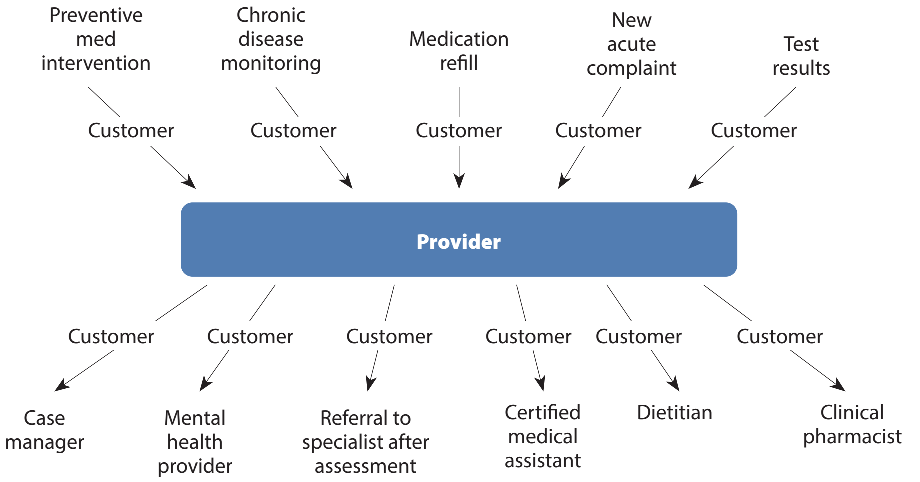

FIGURE 1A. Traditional work flow relationship between patient (customer) and primary and specialty care.

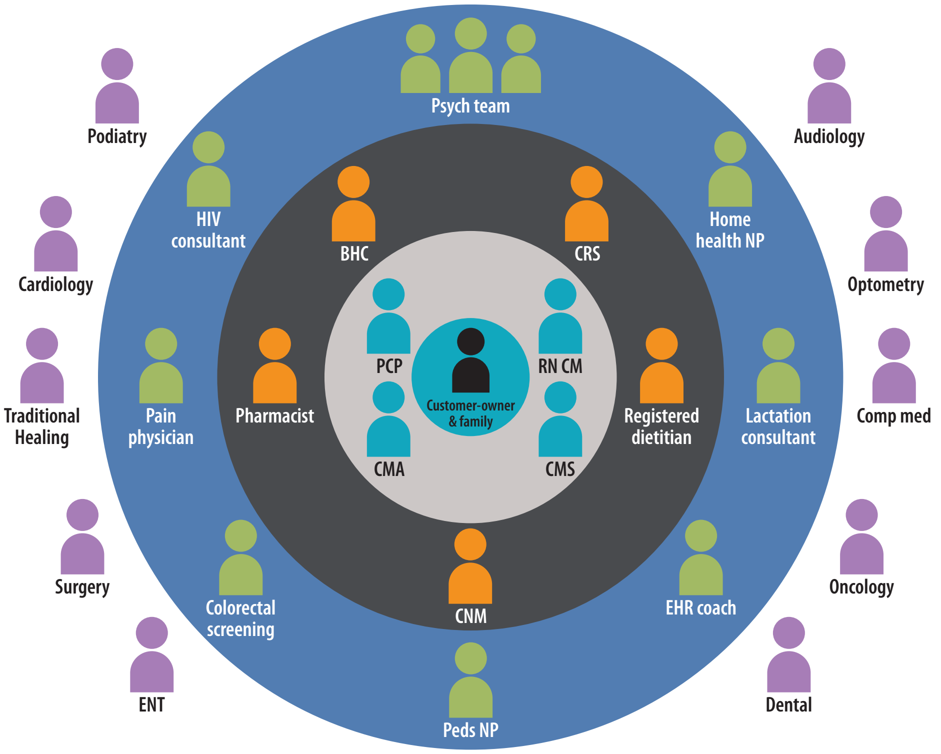

FIGURE 1B. The Nuka System of Care's revised work flow relationship between customer-owner (patient) and primary and specialty care.

Light gray ring: Integrated primary care team—primary care provider (PCP), who may be an MD or nurse practitioner; certified medical assistant (CMA); case management support (CMS); and registered nurse case manager (RN CM).

Dark gray ring: Support services—behavioral health consultant (BHC); pharmacist; community resource specialist (CRS); registered dietitian; and certified nurse midwife (CNM).

Dark blue ring: Shared services—available to customer-owners in all their various distributed teams.

Purple figures: Specialty resources.

Source: Figures 1A and 1B come from the Behavior Health Integration, Participant Guide, provided in the Behavior Health Integration course.

established and agreed-upon referral patterns. The SCF reports large reductions in referrals outside their Nuka System of Care. The specialties closest to the SCF are shown on Figure 1B: podiatry, traditional healing, surgery, ENT, audiology, optometry, complementary services (acupuncture, chiropractic, oncology, and massage), dental, and cardiology. Cardiology provides its own referral resource of consultations for patients they have not seen. The SCF asserts that emergency room visits and hospital stays do not contribute to long-term health and are preferably avoided by continuous primary care.

Migrating what were formerly specialist roles into primary care has paid for itself.

Lessons learned

The following are my main takeaways from learning about the SCF's gradual development of the Nuka approach (SCF's gradual approach to integrating specialty services with primary care):

1. The SCF innovated slowly, with careful measurement. Rushing to incorporate expensive innovations for theoretical reasons is not the Nuka way.
2. Choosing which services to integrate was guided primarily by asking customer-owners what worked best for them and keeping track of outcomes (e.g., reductions in specialist visits and ER or hospital stays).
3. Migrating what were formerly specialist roles into primary care has paid for itself by saving costs associated with emergency room visits, specialist office visits, hospital stays, and an overall healthier population. ■

Continued from page 24

were referred directly to First Link by health care professionals (direct referrals) received services 11 months sooner than clients who accessed the services themselves (through self-directed referrals). Early intervention helps individuals with dementia plan their own care while they can do so. The referral form is a fillable PDF document (except in the Firefox web browser).

Further information on First Link, referral documents, and helpline information is available on the First Link website (see box on page 24). ■

—Hetesh Ranchod, MD

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If you have questions or would like more information, contact gpsc.billing@doctorsofbc.ca or download the physician FAQ document posted at http://gpscbc.ca/what-we-do/longitudinal-care/incentive-program/community-longitudinal-family-physician-payment. ■

—Shelley Ross, MD
Co-chair, General Practice Services Committee

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News

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

Ketone supplement may control glucose by mimicking aspects of ketogenic diet

Research from UBC's Okanagan campus suggests that ketone monoester drinks may help people with diabetes and prediabetes who are looking for strategies to help control blood sugar that don't require taking medications or that are less invasive than injectable insulin. Ketone drinks and supplements have been on the market and available to consumers for a few years. Because they're so new, there's very little research on how they can influence metabolism, and this study is among the first to look at their use in nonathletes.

The study's lead author, Dr Jonathan Little, is an associate professor at UBC Okanagan's School of Health and Exercise Sciences. Little suggests that there is mounting evidence that a low carbohydrate ketogenic diet is effective in controlling blood sugar and even reversing type 2 diabetes. Ketone supplements are proving fertile ground for research into type 2 diabetes because, according to Little, ketones are the natural fuel source of the body when it's in ketosis—the metabolic by-product of consuming a low carbohydrate, ketogenic diet.

Study authors wanted to know what would happen if artificial ketones were given to those with obesity and at risk for type 2 diabetes but who haven't been dieting. To test the idea, Little and his team asked 15 people to consume a ketone drink after fasting overnight. After 30 minutes, they were then asked to drink a fluid containing 75 grams of sugar while blood samples were taken.

The ketone drink seemed to launch participants into a sort of pseudo-ketogenic state where they were better able to control their blood sugar levels with no changes to their insulin.

Little is quick to point out that ketone supplements are not a magic bullet in managing the disease, and that there are a number of problems still to be worked out, including the long-term effects of consuming ketones. He suggests that for those who aren't able to follow a strict ketogenic diet or for those looking for a new way to control blood sugars, this may be another strategy in helping to manage type 2 diabetes.

The study was published in the December 2019 issue of the *American Journal of Clinical Nutrition* with funding from the Heart and Stroke Foundation of Canada. It is available at https://doi.org/10.1093/ajcn/nqz232.

Preventing knee osteoarthritis in youth who play sports

When kids injure their knees playing sports like soccer, not many of us think about how that injury will manifest itself 10 or 15 years down the road. Millions of Canadians currently live with the pain and disability of osteoarthritis. It is estimated that by 2040, 25% of all Canadians will have osteoarthritis. This percentage will be higher in those who suffer a traumatic knee injury.

Dr Jackie Whittaker is a research scientist of musculoskeletal rehabilitation at Arthritis Research Canada. The focus of her research is understanding the connection between youth sport knee injuries and early onset osteoarthritis, as well as osteoarthritis prevention.

Soccer is the highest participatory sport in Canada, and it is a sport with a high injury risk. While very good injury prevention programs exist, such as the 11+ Injury Prevention Program that can reduce knee injuries by up to 50%, it isn't known what someone can do after an injury to minimize their risk for developing osteoarthritis.

Whittaker also describes that obesity and muscle weakness have been identified as risk factors, so keeping muscles strong and staying active after an injury to avoid weight gain are important. She points out that the red flag isn't when you have swelling and pain, it's when you are becoming less and less active because of your knee. The last thing you want someone to do is stop sport or physical activities altogether. However, it can be challenging and sometimes support is needed.

Currently, the treatment of young athletes who suffer a knee injury focuses on returning them to sport. Few seek care beyond their injury, and little effort is made to prevent osteoarthritis. Further research with a team of patients and clinicians is expected to improve treatment outcomes and reduce the burden of osteoarthritis and related conditions for young Canadians who suffer a sport knee injury.

For more information about Dr Whittaker's upcoming research study, "Preventing osteoarthritis after a sport knee injury; Stop OsteoARthritis (SOAR)," visit www.arthritisresearch.ca/research/stop-osteoarthritis-soar.

Traumatic brain injury in survivors of intimate partner violence

While the diagnoses and treatment of sport-related concussion have well-established guidelines and protocols, a new study from UBC's Okanagan campus is looking at a previously understudied group—women survivors of intimate partner violence. The hope is to develop a simple screening tool to help front-line services, like women's shelters, identify traumatic brain injury earlier.

Dr Paul van Donkelaar is lead researcher and a professor with the School of Health and Exercise Sciences. He reports that there is currently little direct evidence for the potential link between intimate partner violence and traumatic brain injury–induced brain dysfunction. In many cases, survivors of intimate partner violence don't necessarily know they have had a traumatic brain injury, and yet they are suffering from chronic symptoms including headaches, dizziness, and difficulty remembering. Further, if a brain injury is diagnosed, it might be several months or years after the initial damaging blow took place. And was it caused by one blow, multiple attacks over several months, or from being shaken or even strangled?

While diagnosis is a challenge, there also remains a social stigma with intimate partner violence. Van Donkelaar says many women who do seek medical help may not tell the truth when asked how the injury occurred. For these reasons alone, van Donkelaar and his research team want to make concussion assessments and care for survivors of intimate partner violence accessible and straightforward.

For this latest research, the team used two brain injury questionnaires—the Brain Injury Severity Assessment tool (BISA) and the Sport Concussion Assessment Tool (SCAT5)—to get a better sense of the symptoms experienced by survivors. Eighteen women took the part in the study.

The research, published in *Brain Injury*, determined that by using the BISA test, which asks questions about symptoms resulting from episodes of intimate partner violence, more brain injuries were reported by the survivors. The study determined that each participant had suffered at least one previous traumatic brain injury, and most had suffered many.

The findings from the current investigation can be used to develop informed screening tools to help front-line staff at women's shelters identify a brain injury as a possible factor in the symptoms experienced by survivors of intimate partner violence. Van Donkelaar says providing these practical support resources to survivors will improve their chances of breaking the cycle and enable them to move forward into an abuse-free future.

The study is available at https://doi.org/10.1080/02699052.2019.1658129.

Many Canadians live with multiple chronic conditions; efforts to improve lifestyle needed

A lack of physical activity, a poor diet, and too much stress are taking their toll on the health of Canadians, says a new UBC study. Researchers from UBC's Faculty of Medicine caution that too many Canadians live with a number of health issues that impact their ability to lead healthy lifestyles.

Dr Brodie Sakakibara is an assistant professor with the Centre for Chronic Disease Prevention and Management based at UBC Okanagan. He and colleagues from UBC's Department of Physical Therapy recently published a study examining how common it is for Canadians to have multiple, and serious, health conditions.

Stroke, heart disease, and diabetes are three of the most prevalent chronic diseases worldwide. These cardiometabolic diseases, mostly caused by lifestyle behaviors, are the leading causes of health resource use, hospitalizations, morbidity, and mortality in Canada. Using data from a 2016 Canadian Community Health Survey with 689 300 respondents, researchers investigated cardiometabolic multimorbidity (CM) and its connection to physical activity, diet, and stress. The study reports that the number of Canadians with CM or at risk of CM is high, and an increasing onset of cardiometabolic conditions is associated with higher chances of physical inactivity and stress. Sakakibara adds that health care management for people with multiple chronic diseases is traditionally based on disease-specific strategies often independent of one another, leading to fragmented care with multiple care providers and systems.

While becoming more active, lowering stress, and eating well won't cure all ailments, Sakakibara says it would certainly be a step in the right direction. The study suggests the time has come for greater efforts to prevent CM in individuals at high risk, as well as efforts to help people with CM better manage their health and well-being. This study, partially funded by the Canadian Institutes of Health Research and the Michael Smith Foundation, was published in *BMC Public Health*. It is available at https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-019-7682-4.

Medical Meditation app

Medical Meditation is a free mobile app created to improve the lives of people suffering from chronic illnesses through guided meditation tracks for a variety of illnesses and symptoms, supporting the listener to find relaxation and awareness of breath through mindfulness techniques. The Medical Meditation app was founded by Dr Nikhil Joshi, who used meditation as a coping mechanism after being diagnosed with cancer. Mindfulness is believed to reduce the impact of stress and anxiety on patients and their families, a part of treating a person holistically. The app is available for download at www.medicalmeditation.ca.

Depression linked to nutrition in middle-aged and older Canadians

Researchers from Kwantlen Polytechnic University, the University of Toronto, the University of Victoria, and MacEwan University find that nutrition plays a major role in depression. The study also found that the likelihood of depression is higher among middle-aged and older women who are immigrants to Canada when compared to Canadian-born women.

Dr Karen Davison, Health Science program chair at Kwantlen Polytechnic University, led the study. She describes that lower intakes of fruits and vegetables were found to be linked to depression for both men and women immigrants and those born in Canada. Additionally, men were more likely to experience depression if they consumed higher levels of fat or lower levels of omega-3 eggs. For all participants,

Screening for thyroid dysfunction in patients without symptoms: Don't check that box routinely

A new guideline from the Canadian Task Force on Preventive Health Care found no benefit to routine screening for thyroid dysfunction in adults without symptoms or risk factors. Based on the latest evidence, the Task Force guideline recommends against routine screening for thyroid dysfunction in nonpregnant adults; the guideline is published in the CMAJ (www.cmaj.ca/content/191/46/E1274).

Routine screening for thyroid dysfunction in people without symptoms or risk factors is commonly ordered, but practice varies by primary care practitioner. According to the recommendation, the evidence isn't there to suggest a health benefit for this type of screening as a routine part of care. This recommendation does not apply to patients with symptoms, including unexplained fatigue or weight change, sensitivity to heat or cold, hair loss, and irregular heart rhythms. People on medications such as lithium or amiodarone or with risk factors for thyroid dysfunction, such as previous thyroid disease or surgery, radiation to head or neck or pituitary or hypothalamic diseases, are also exempt from this guideline.

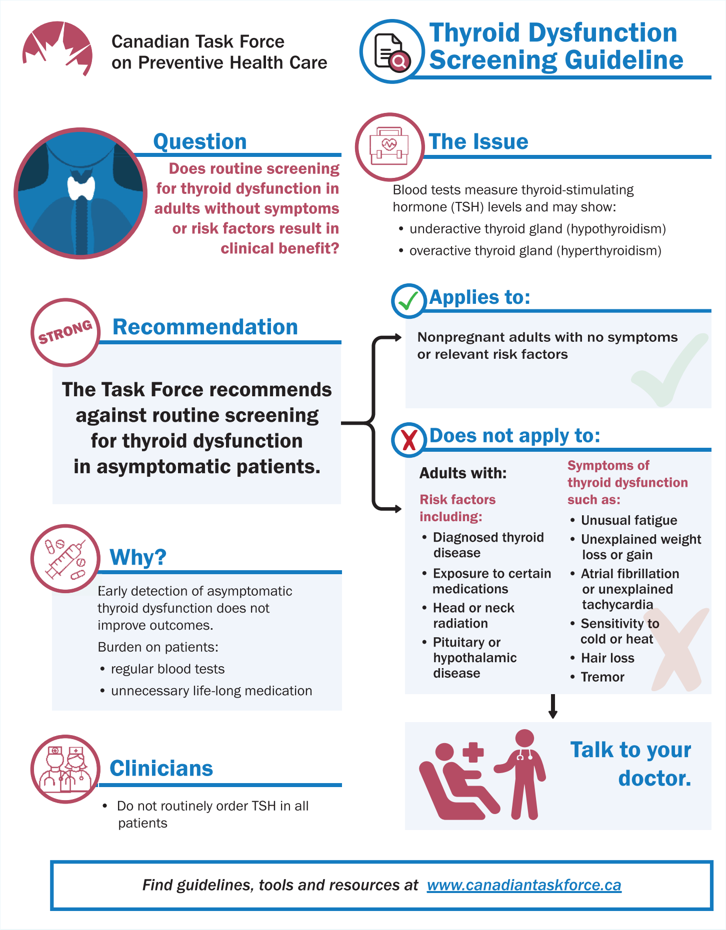
The Task Force conducted a rigorous systematic review of the latest evidence. Although no screening trials were identified, 22 studies on the effectiveness of treatment for abnormal thyroid-stimulating hormone (TSH) findings in asymptomatic adults were included. The Task Force did not find evidence of benefits from screening and treatment in people without symptoms, but highlighted that screening requires patients to undergo testing.

Given the lack of benefit to patients, as well as the need to take medication unnecessarily and have regular medical visits and follow-up blood tests to check TSH levels, the Task Force strongly recommends against routine TSH screening in asymptomatic adults.

Clinicians should be aware of symptoms, signs, and conditions associated with thyroid dysfunction so that patients with these can be tested, particularly symptomatic postmenopausal women, given the higher prevalence of hypothyroidism in that population.

Alignment with other guidelines

The British Columbia Ministry of Health and Toward Optimized Practice from Alberta recommend against testing for TSH in asymptomatic patients. The College of Family Physicians of Canada, the Nurse Practitioner Association of Canada, and the Canadian Society of Endocrinology and Metabolism have endorsed the guideline.



Canadian Task Force on Preventive Health Care

Thyroid Dysfunction Screening Guideline

Question

Does routine screening for thyroid dysfunction in adults without symptoms or risk factors result in clinical benefit?

The Issue

Blood tests measure thyroid-stimulating hormone (TSH) levels and may show:
- underactive thyroid gland (hypothyroidism)
- overactive thyroid gland (hyperthyroidism)

STRONG

Recommendation

The Task Force recommends against routine screening for thyroid dysfunction in asymptomatic patients.

✓ **Applies to:**

Nonpregnant adults with no symptoms or relevant risk factors

✗ **Does not apply to:**

Adults with:

Risk factors including:
- **Diagnosed thyroid disease**
- **Exposure to certain medications**
- **Head or neck radiation**
- **Pituitary or hypothalamic disease**

Symptoms of thyroid dysfunction such as:
- **Unusual fatigue**
- **Unexplained weight loss or gain**
- **Atrial fibrillation or unexplained tachycardia**
- **Sensitivity to cold or heat**
- **Hair loss**
- **Tremor**

Talk to your doctor.

Why?

Early detection of asymptomatic thyroid dysfunction does not improve outcomes.

Burden on patients:
- regular blood tests
- unnecessary life-long medication

Clinicians

- Do not routinely order TSH in all patients

Find guidelines, tools and resources at www.canadiantaskforce.ca

For an additional overview and tools, visit https://canadiantaskforce.ca/guidelines/published-guidelines/asymptomatic-thyroid-dysfunction. To listen to a related podcast about the guideline, visit https://soundcloud.com/cmajpodcasts/190395-guide. To read the systematic review published in the journal *Systematic Reviews* visit https://link.springer.com/article/10.1186/s13643-019-1181-7.

The Canadian Task Force on Preventive Health Care is an independent panel of health professionals who are experts in clinical preventive health care and guideline methodology. The Task Force's mandate is to develop and disseminate evidence-based clinical practice guidelines for primary and preventive care.

lower grip strength and high nutritional risk were associated with depression.

Various minerals and vitamins (e.g., magnesium, zinc, selenium) present in fruits and vegetables may reduce plasma concentrations of C-reactive protein, a marker of low-grade inflammation associated with depression. Researchers were interested to learn that omega-3 polyunsaturated fats were inversely associated with depression among men. They note that future research is needed to explore the pathways, but it is plausible that increased omega-3 fatty acid concentration in the diet may influence central nervous system cell membrane fluidity and phospholipid composition, which may alter the structure and function of the embedded proteins and affect serotonin and dopamine neurotransmission.

The study also found depression to be associated with having chronic pain and at least one chronic health condition for both men and women.

Researchers assert that it is important to consider influences earlier in life, including immigration status, education, and income, in addition to nutritional intake, as these are also crucial to older Canadians' mental health.

Updated national framework for advance care planning in Canada

The Advance Care Planning (ACP) in Canada initiative, led by the Canadian Hospice Palliative Care Association (CHPCA) has released an updated National Framework for ACP that now includes an updated plan for implementing ACP in Canada.

The 2019 Pan-Canadian Framework builds on the first version of the National ACP Framework, created in 2012, and its influence on new developments and accomplishments. The new framework is restructured to focus more on broadening partnerships and promoting further collaboration among different jurisdictions (local, provincial/territorial, national) and systems (health, law, social services, life planning). Its development was funded by Health Canada to help people living in Canada prepare for their future health care needs.

The updated framework reframes the four main action pillars as interconnected activities that have the potential to normalize, support, and promote ACP in Canada. These activities, in turn, can be integrated with other life planning activities, such as financial planning and estate planning, to create a kind of safety net for people throughout their lives.

The 2019 National Framework and other resources and tools for patients, families, and health care providers are available in the Advance Care Planning resource library at www.advancecareplanning.ca/acp-framework.

Resources to support the legal processes of advance care planning in Canada

The Advance Care Planning (ACP) in Canada initiative has released two Living Well, Planning Well resources to support the legal processes of ACP in Canada. Every province and territory has laws to help protect the right to do ACP and to choose a substitute decision maker to speak on a person's behalf if they cannot speak for themselves. The two resources explain the legal requirements and lawyers' involvement in their clients' ACP.

Lawyer's toolkit

The Living Well, Planning Well legal toolkit is designed to help lawyers and their clients go through the process of ACP. It highlights the importance of ACP and its role in life planning in general (e.g., estates and wills, life insurance, investment planning), and it covers different scenarios, prompts, and precedent clauses that lawyers can use to start ACP conversations with their clients. The legal toolkit, funded by Health Canada and created with input from two Canadian law firms, is available at www.advancecareplanning.ca/resource/living-well-planning-well-lawyers-resource.

Public toolkit

A complementary Living Well, Planning Well resource for the public was created with support from a national advisory committee of legal professionals, health care providers, and patient and caregiver representatives. This resource provides plain language summaries of the processes of health care consent, capacity, ACP, and substitute decision making in Canada. It begins with an overview of the national legal norms for ACP, followed by short infographic summaries of the legal requirements for each province and territory (except for Nunavut, which does not have ACP legislation). It is relevant for anyone who is unfamiliar with the laws where they live, or who has moved to a new province/territory, or is concerned about having their ACP rights respected. Funding for this resource was provided by the Canadian Bar Association's Law for the Future Fund grant program. It is available at www.advancecareplanning.ca/resource/living-well-planning-well-resource.

According to the authors, immigrant status was associated with depression among women. Older immigrant women in the study may have reported depression as a result of the substantial stress associated with settling in a new country; immigrant men, who face many of these same settlement problems, did not have higher levels of depression than their Canadian-born peers. Although the authors did not have the data to explore why there was a gender difference, they posit that it may be that in these older married couples it was the husband who initiated the immigration process and the wives may not have had as much choice about leaving their homeland.

The study was based on analysis of the Canadian Longitudinal Study on Aging data and included a sample of 27 162 men and women aged 45 to 85 years, of whom 4739 are immigrants. The study was published in BMC Psychiatry. It is available at https://bmcpsychiatry.biomedcentral.com/articles/10.1186/s12888-019-2309-y.

Shape the future of epilepsy research

The Epilepsy Research Program of the Ontario Brain Institute has launched a national survey to identify and prioritize unanswered questions about epilepsy and seizures. They have teamed up with the Ontario Brain Institute and the James Lind Alliance to bring together patients, caregivers, and clinicians to agree on a top-10 list of research priorities for epilepsy.

About 300 000 Canadians are living with epilepsy. Depending on location and access to care, epilepsy patients in Canada may be treated by family doctors, pediatricians, internists, neurologists, or epileptologists. As clinicians on the front lines, your questions about the diagnosis, treatment, or management of epilepsy will help direct researchers toward finding solutions that better reflect your needs and will help you provide better care to your patients with epilepsy.

This is your chance to shape the epilepsy research agenda in Canada by helping researchers better understand the needs of people living with epilepsy and seizures. Researchers are interested in your perspective on the unanswered questions or treatment uncertainties that, if answered, will have the greatest impact on your patients and their quality of life.

You are eligible to complete the survey if you are:

- A health care provider working with people with epilepsy.
- A person with epilepsy or seizures.
- A caregiver, friend, or family member of someone with epilepsy or seizures.
- A Community Epilepsy Agency representative.

Share what matters to you by completing the short survey at braininstitute.ca/epilepsy-psp (survey is available in French and English).

Billing webinar series: Winter 2020 schedule

All family physicians are invited to participate in the GPSC's winter 2020 billing education webinar series about GPSC incentive fees and select MSP fees. The series will have six 90-minute webinar sessions led by physician educators. Physicians are encouraged to join the live scheduled webinars to receive information that is up-to-date, advice that is relevant, and opportunities for real-time engagement. Webinars are not recorded.

- Session 1: MSP Basics—Introduction to Billing for Family Practice. Monday, 27 January 2020, 6 p.m.
- Session 2: GPSC Billing Part 1. Tuesday, 28 January 2020, 6 p.m.
- Session 3: GPSC Billing Part 2. Tuesday, 18 February 2020, 6 p.m.
- Session 4: GPSC Billing Part 3. Wednesday, 19 February 2020, 6 p.m.
- Session 5: GPSC Billing Part 4. Tuesday, 3 March 2020, 6 p.m.
- Session 6: Case-based exercises. Monday, 30 March 2020, 6 p.m.

Space is limited. For registration links and details about content covered in each session, visit www.gpscbc.ca.

Reducing falls in seniors

Each year, 30% of seniors have at least one fall—half of whom fall more than once. In fact, 9 out of 10 hip fractures result from falls. These falls can have dire consequences, 20% lead to death and a further 20% result in seniors being admitted to care homes for the balance of their life. Fortunately, falls are preventable, and there is evidence that the Otago Exercise Program, which consists of strength and balance training delivered by a physiotherapist, can reduce falls in seniors.

Arthritis Research Canada's senior research scientist Dr Linda Li is co-leading a team of fellow scientists, arthritis research trainees, and patient experts in a 3-year study and randomized trial using the traditional Otago program or an enhanced version that includes an exercise coach. The research team recently demonstrated that exercise coaching with the use of a consumer wearable, such as a Fitbit, was feasible and could help older adults with chronic disease to stay active. A key element was to empower the person to develop realistic exercise goals.

In this project, the team will test two methods of delivering the Otago program, which includes a new coaching approach by a physiotherapist and the use of a Fitbit to provide feedback (versus the traditional delivery, which is the current standard). The team will measure success by the degree to which the program is delivered as intended, and the degree to which it is followed by seniors at 12, 18, and 24 months. The number of falls, risk of falling, and participation in walking activities between the two groups will also be assessed over time. In addition, the team will assess whether the coaching approach is a cost-effective option for delivering the Otago program. To read more about Dr Li and her work, visit www.arthritisresearch.ca/linda-li.

Research matters

For more than 20 years WorkSafeBC's Research Services department has played a significant role in the workplace health and safety research landscape in BC. By fostering development of high-quality scientific knowledge on emerging issues, Research Services supports academic research and practical projects aimed at responding to pressing concerns. We can provide insights to those in the medical field regarding the care and treatment of workers who become injured or ill on the job.

Craig Martin, MD, manager of WorkSafeBC Clinical Services and chair of the Evidence-Based Practice Group, is part of the stakeholder committee that reviews research proposals and is an active research user. He asserts that all types of research are relevant, including lab-based studies, bedside and clinical endeavors, and workplace studies. Higher-level population-based health research is often helpful when looking ahead, and systematic reviews help WorkSafeBC understand what the world has to say, in a scientifically valid way, about important issues.

Medical experts are encouraged to connect with Research Services and to participate in research by submitting proposals or partnering with other researchers.

Funding opportunities

Through rigorous, peer-reviewed competitions, WorkSafeBC provides funding for research in a diversified program that includes:

- Systematic reviews and specific priorities research: Focus is on applied research projects on occupational health and safety questions that are aligned with WorkSafeBC's research priorities and have immediate relevance to workers and workplaces. The studies give stakeholders insight on priority issues, provide critical assessment of current science, and identify and address knowledge gaps.
- Research training awards: Available to graduate students pursuing training in occupational health and safety, and workers' compensation research in BC. These awards are aimed at building a base of research expertise in the province.
- Innovation at work: Supports agile projects on a smaller scale and promotes collaboration between workplace parties and researchers. Recently funded studies include refinement of a skin substitute to treat pressure ulcers in patients with spinal cord injuries, an assessment of exhaled breath condensates as a marker of metal exposures, and an analysis of the handling of antineoplastic drugs to better understand how to prevent worker exposure.

Alex Scott, MD, associate professor in the Department of Physical Therapy at the University of British Columbia, has experience as a grant holder, supervisor of a research training award recipient, and peer reviewer. He notes that because the review process includes employer and worker representation, there is a real sense of responsibility to do research of the highest standard. As well, he points to the motivating factor of being faced with injured workers desperate to get back to their jobs and their lives. Dr Scott advises applicants to prepare well in advance of a deadline to build in enough time to seek feedback, generate support, and assemble a strong team with an excellent research track record as well as real-world experience.

Working together

Partnerships are an important component of the research WorkSafeBC supports. This is clear in the efforts of the Partnership for Work, Health, and Safety. Since 2005, UBC researchers have worked collaboratively with WorkSafeBC, using data gathered from multiple sources by Population Data BC, to paint a comprehensive picture of worker health. The partnership team is made up of an integrated group of UBC faculty, students, and staff along with advisors from WorkSafeBC.

Research Services also maintains partnerships with workers' compensation organizations and government groups from other jurisdictions, enabling WorkSafeBC to connect with a bigger pool of researchers and stakeholders.

Making connections

Medical experts are encouraged to connect with Research Services and to participate in research by submitting proposals or partnering with other researchers. Dr Scott recognizes that doing research can feel lonely and overwhelming at times, and that the most meaningful part of research is being part of a big community—a scientific movement seeking a better understanding of how to prevent and treat injury and disease.

Outlines, summaries, and full reports of active and completed projects are available online at www.worksafebc.com. To learn more about funding competitions, visit the website and click on Research Opportunities in the About Us section at the bottom of the homepage, or email resquery@worksafebc.com. ■

—Susan Dixon
Knowledge Transfer, WorkSafeBC Research Services

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

Obituaries

We welcome original tributes of less than 300 words; we may edit them for clarity and length. Obituaries may be emailed to journal@doctorsofbc.ca. Include birth and death dates, full name and name deceased was best known by, key hospital and professional affiliations, relevant biographical data, and a high-resolution head-and-shoulders photo.

Dr Gerald (Gerry) Albert Bredo

1940–2019

On the afternoon of 4 November 2019, while walking the seawall in Powell River, Gerry suddenly passed away. How fitting that he was in a location he loved, enjoying the antics of the seabirds and otters at the ocean's edge.

Gerry was originally an Alberta boy, born in Red Deer. He grew up in Edmonton, where he graduated from the University of Alberta with his MD and where he met his wife, Joyce. Following their wedding in 1966 and a 1-year locum in Powell River, Gerry completed a pediatric residency at Toronto's Hospital for Sick Children in 1970. They then returned to Powell River where Gerry practised as the sole pediatrician for 27 years, until his retirement in 1997.

Intelligent, dedicated, and compassionate, Gerry was available 24/7, at a moment's notice for GPs struggling with sick children in the ER, ward, or nursery. He was also an avid golfer, a curler, expert fly fisherman, and a champion rifle marksman at the local Rod and Gun Club.

Gerry leaves behind his wife of 53 years, Joyce; his daughter, Stacy (Dwayne); and his son, Douglas (Ivy). Gerry was highly respected by his colleagues and the residents of Powell River, and he will be missed.

—William Barclay, MD, CCFP
Powell River

Dr William (Bill) Jory

1933–2019

William John Jory was born 24 March 1933 in London. He earned his MBBCh from Cambridge University (England) in ophthalmology in 1961. After serving as a lieutenant in the Royal Navy in the Mediterranean (1951–53), he and Carolyn Shepheard were married in 1963. Together they had four children: David William, Richard Norman, Virginia Jane, and Clare Elizabeth.

In 1968 Bill and his family emigrated from England to Vancouver. He became a staff member at Lions Gate Hospital and opened an office in North Vancouver, and quickly had a busy surgical practice and worked there until 1980.

In 1970 Bill became a member of the then BCMA Board of Directors. That year the BCMA was building a partnership with the provincial government to establish the Medicare Program being introduced by the federal government.

He had a meteoric rise to prominence by being elected twice, by mail-in ballot, as president of the BCMA (in 1976–77 and 1982–83). Today, staff refer to him as "the twice president."

In the early 1970s traffic-accident deaths and injuries were drawing increased international attention, and Australia introduced mandatory seatbelt legislation. In 1976 the BCMA, led by President Bill Jory, asked for similar legislation to be introduced by the BC provincial government, but neither the government nor the opposition were interested. As a result, Bill led an aggressive public campaign that led to mandatory seatbelt legislation later in 1976 and acceptance by the media and the public that the BCMA was an advisor to government and a teacher to British Columbians on health care issues.

As president he also became a member of the CMA Board of Directors and of General Council. This resulted in him becoming an outstanding national medical-political leader. In 1982 Dr Jory was nominated unanimously by the BCMA Board of Directors as the BCMA nominee for president elect of the CMA, and the CMA Nominating Committee endorsed the nomination. Then a BCMA member who had previously voted for his nomination ran against him from the floor of General Council, and with Ontario Medical Association support, defeated Dr Jory. For the BCMA and many members, it was an overwhelming disappointment.

Throughout his time practising in North Vancouver, Bill made regular monthly visits to Prince Rupert and provided a few days' care to a widely dispersed, mainly Indigenous population. In 1982 family commitments required that Bill and Carolyn return to live in England. Though he closed his North Vancouver office, he retained his commitment to Northern British Columbia. Every 4 to 6 weeks he would provide ophthalmological services to Prince Rupert, Haida Gwaii, the communities along the Skeena-Bulkley Valley, and north to the Alaskan border. His interests were wide ranging and included opera, cruises, and political history.

In 1986, Bill returned to England permanently and practised as an ophthalmic surgeon until his retirement in 2006. Surrounded by his family, Bill died peacefully at home on 1 July 2019.

—John O'Brien-Bell, MBBS
Surrey

CME calendar

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

GP IN ONCOLOGY TRAINING

Vancouver, 3–14 Feb (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, participants 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.

CHRONIC PAIN MANAGEMENT CONFERENCE

Vancouver, 6–7 Mar (Fri–Sat)

The 33rd annual Chronic Pain Management Conference is presented by the Foundation for Medical Excellence in cooperation with the College of Physicians and Surgeons of British Columbia. This course is designed to assist clinicians in successfully managing patients with chronic pain, anxiety, and substance use. These issues impact multiple dimensions of the patient's life. The complexity of these issues challenge and stress those who work with these patients, day-by-day and week-by-week. The conference assumes that clinicians have a basic knowledge of opioid prescribing principles, as the lectures will not focus on the nuts and bolts of opiate and anxiolytic prescribing. This program will help clinicians recognize limits, set mutual goals of care with patients, and redefine the role of psychoactive medications in managing chronic pain and distress. To register, visit https://tfme.org/2020-pain-and-suffering-can/.

MINDFULNESS IN MEDICINE WORKSHOPS AND RETREATS

Various locations and dates 17 Apr–24 May

Join Dr Mark Sherman and your community of colleagues for a transformative retreat! Foundations of Theory and Practice Workshop for Physicians and Their partners, 17–20 Apr and 25–28 Sep, will be held at Long Beach Lodge Resort, Tofino. A Physician Meditation Retreat, 24–29 May, will be held at Hollyhock, Cortes Island. The workshops focus on the theory and practice of mindfulness and meditation—reviewing definitions, clinical evidence, and neuroscience, and introducing key practices of self-compassion, breath work, and sitting meditation to nurture resilience and healing. This annual meditation retreat is an opportunity to delve deeply into meditation practice in order to recharge, heal, and build a practice for life. Each workshop is accredited for 16 Mainpro+ group learning credits and has a 30-person limit, so please register today! Contact us at hello@livingthismoment.ca, or check out www.livingthismoment.ca/event for more information.

CANADIAN CONFERENCE ON PHYSICIAN LEADERSHIP

Vancouver, 29–30 May (Fri–Sat)

The Canadian Conference on Physician Leadership—Accepting our Responsibility as Physician Leaders will be held at the Hyatt Regency Hotel. This 2-day educational event brings together physician leaders from across Canada and internationally and is designed to engage and educate physician leaders at all levels. Take advantage of our four 2-day intensive and interactive pre-conference courses (27–28 May). For more information email carol@physicianleaders.ca, or visit www.physicianleadershipconference.com.

Classifieds

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Talking to patients about CRISPR

What is it, what can it offer, and what are its limits?

Mark Elliott, MD

There have been many headlines on CRISPR (clustered regularly interspaced short palindromic repeats) technology lately. When a patient gets an upper respiratory tract infection from some virus, the body's immune system takes care of the symptomatology and then provides an immunity protecting the body against further infections from the same virus. CRISPR is simply the bacteria's way of doing this.

When a virus gets into a bacterium's DNA, the bacterium sticks a long chain of CRISPR of DNA on both sides of the viral DNA. An RNA matching strand attached to a pair of DNA scissors (an enzyme called Cas) then binds to this area and snips out the viral DNA the next time it tries to infect the bacterium. However, this revolutionary technology is not limitless.

This technology will *not* be used to improve athletic performance, simply because athletic ability depends on many, many genes. There is *animal* research using gene editing to increase the lean muscle mass in pigs, but that won't help Usain Bolt, the Olympic sprinter, who is more than a human with big muscles. Those muscles are part of a human body including a brain that gives him the ability to run really fast, and CRISPR is not going to work here.

This technology will *not* be used to increase human intelligence for the same reason. Intelligence depends on too many genes, and science doesn't really even know how to measure intelligence.

> **Trials on sickle cell anemia in which some of a patient's bone marrow is taken, then edited, then injected back into the patient are starting now.**

This technology will *not* be used to change germ lines, namely eggs and sperm, that alter the human genome, as that it is illegal in Canada under the Assisted Human Reproduction Act of 2004.

But this technology *will* hopefully be useful in treating patients with single genetic point mutations, like sickle cell anemia and thalassemia. Trials on sickle cell anemia in which some of a patient's bone marrow is taken, then edited, then injected back into the patient are starting now. Difficult, unresolved questions remain about how much bone marrow needs to be edited, what percentage of the edited cells will wind up back in the bone marrow, and how effective they will be if they transport back to the bone marrow, but answers are forthcoming.

This technology has been around for roughly 7 years, and complicated patent issues are ongoing. But eventually, if the sickle cell trials are successful, it will likely be standard treatment for this single point mutation illness. ■

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

This article has been peer reviewed.

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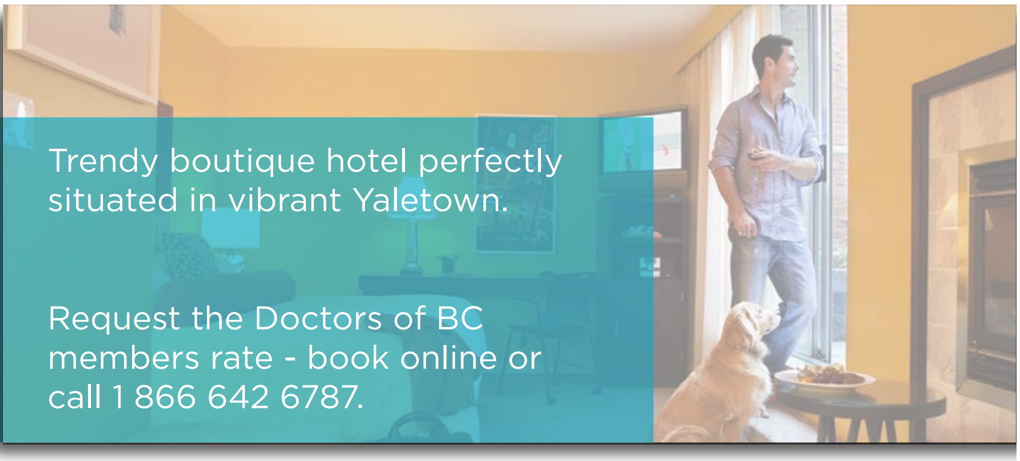

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