

Use of quality improvement science to improve the accuracy of drug allergy status in pediatric patients after allergist assessments

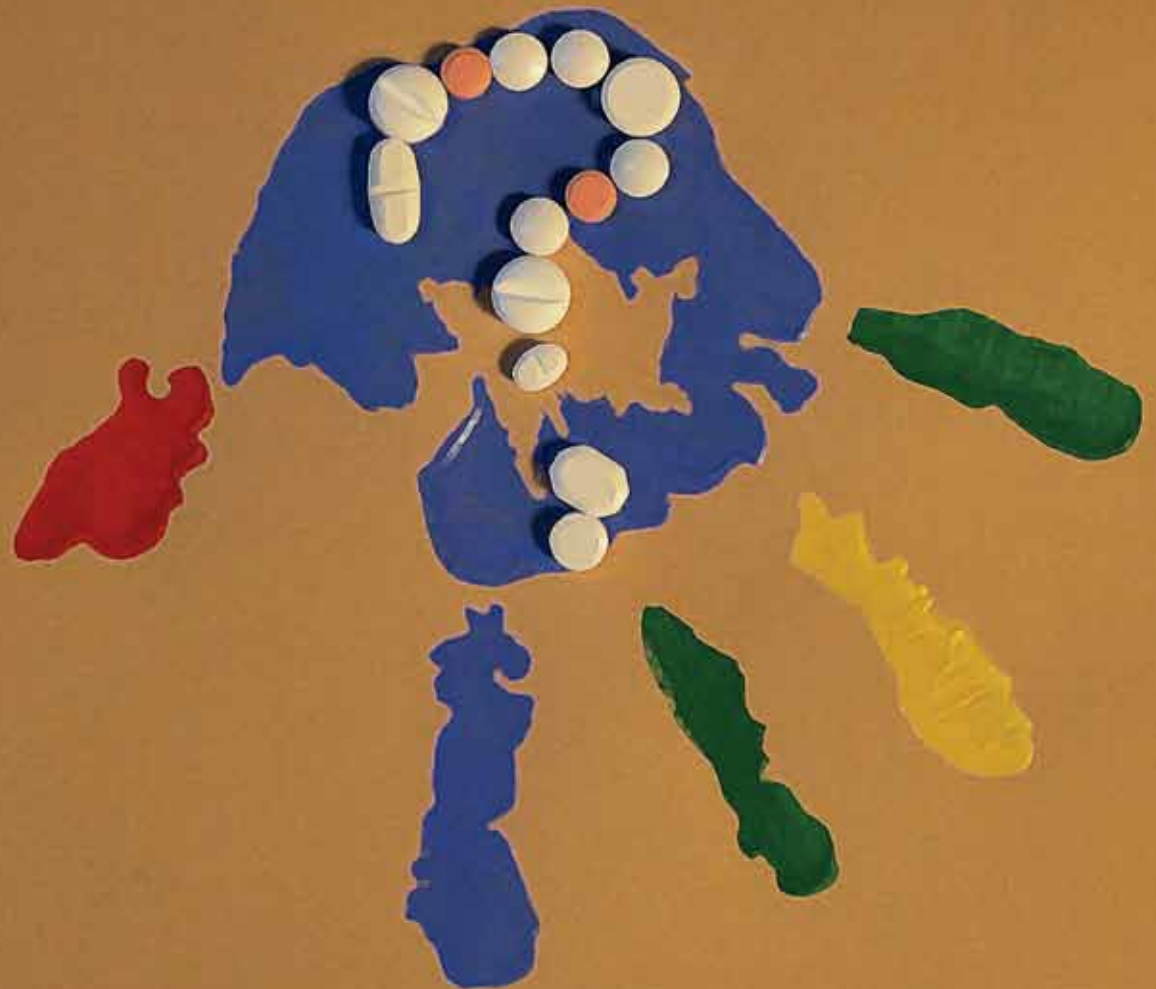
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ON THE COVER

Inaccurate documentation of drug allergy status can affect medication selection and lead to suboptimal treatment. The authors outline a process for accurately documenting drug allergy status in hospital and community EMRs so that patients receive the correct medical treatment. Article begins on page 285.

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

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This summer Dr Sophia Park became the new chair and Dr Adam Thompson the new vice-chair of the Doctors of BC Board of Directors. See page 276.

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The outsized impact of kindness

Working in health care leads to a one-sided perspective of the system's nuances and challenges. By becoming consumers in the system, some of us will experience a different side, which recently became my reality, as my wife is unwell with an uncertain future. The tendency is to ask of the heavens, "Why us?" but in truth, after watching so many patients go through similar situations, the real question is, "Why not us?"

As a result of this transition from physician to proxy medical participant through my wife, I have been thinking a lot about kindness. A definition that resonated with me is as follows: "The quality of being friendly, generous, and considerate without expectation of praise or reward."

My wife's health care journey has brought us into contact with many different individuals—

doctors, nurses, therapists, porters, administrative staff, hospital workers, and more. I would like to thank all of them for their care and expertise. A lesson I have relearned is how the smallest act of kindness can elevate someone from just doing their job to being an angel of caring. The difference this makes to a vulnerable unwell patient and their family is immeasurable.

So many have been so kind that it is impossible to list them all, but a few examples stand out.

The ER charge nurse who found my wife a place to lie down while waiting for a bed on the ward upstairs, even though she was a direct admit and not this nurse's responsibility. She noted how long we had waited sitting in chairs and could tell by my wife's demeanor how poorly she felt. This nurse took time out from her busy shift to make a difference—kindness.

The porter who asked how my wife was feeling and listened with interest and compassion to her answer—kindness.

The radiation technologists who greeted my wife with such caring and treated her with gentle calmness when she was at her most vulnerable—kindness.

The doctor who took her by the hand and reassured her that even though she didn't know where this was all going she would do her best to make her feel better—kindness.

The hospital staff who dialed her phone when she wasn't able to so she could stay connected to her family when she needed it the most—kindness.

The nurses who visited her even though she was no longer on their ward or in their care—kindness.

These examples and so many more serve as a reminder to me to do better when faced with opportunities to perform similar acts. Being on the receiving end of such kindness lends itself to a new perspective on the positive power of slowing down and taking the time to be a little more human.

The take-home lesson is that a little kindness goes a long way when it comes to our patients. ■

—David R. Richardson, MD

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On spider bites, blood clots, and lions

Loyal *BCMJ* readers appreciate that the worldwide outbreak of COVID-19 constituted a pandemic long before it was officially designated as such, and now tirelessly await confirmation of its conclusion. It is my pleasure to humbly answer their prayers with the following incontrovertible evidence, gleaned from the trenches of emergency medicine.*

Regulars have returned to the ED, including the spider-bitten

At the start of the pandemic, BC patients, as they have since the dawn of time, sustained

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spider bites daily. But COVID-19 fear drove them to shun the emergency department, instead electing to stay home and bang pots at 7 p.m. daily in tribute to health care heroes. The spider-bitten, no longer fearful of COVID-19, have returned to the ED alongside other regular patient cohorts constituting the ED faithful,[†] on a scale recalling the annual Okavango Delta migration.[‡]

COVID-sick patients have given way to COVID-free patients fearing vaccine complications

During the various COVID-19 waves, many patients arrived with cough and some tested positive for COVID-19—strong evidence that the disease was rampant. But now we see only patients fearful of vaccine-induced blood clot complications. This is cause for joy and celebration. First, they do not have COVID-19 and are unlikely to get it by virtue of vaccination. Second, emergency doctors, even the lowest functioning cohort (e.g., the author), are expert in managing not only the fear that

[†]Other ED faithful include patients concerned about hypertension (*cura elevatum pressura sanguinem*) and those in need of work notes (*litteras excusationem ab opereor*) or prescription refills.

[‡]The spider-bitten are well known to BC's emergency doctors. They present with red spots/blisters inflicted by the many species of BC's nocturnal human-biting spiders (BCNH-BS). These remarkable arachnids bite only at night when the unsuspecting victim is asleep. On waking, the spiders have retreated to camouflaged web-sites, there to rest weary legs and fangs in joyful anticipation of the next busy night of human predation. Only suffering is left in their wake.

grips patients concerned about blood clots, but also the occasional clot we are able to confirm.[§]

COVID-19 topped headlines for over a year. But in journalism the old inevitably makes way for the new.

The news cycle has moved on COVID-19 topped headlines for over a year. But in journalism the old inevitably makes way for the new, never to return (i.e., *The Moving Finger writes; and, having writ, Moves on*). For example, in the May/June CPSBC *College Connector*, the pandemic has lost

top billing to antiracism, including the decision to retire the College's 135-year-old colonial crest. Distinctly medieval, the crest features a crowned lion standing on a larger crown.^{||} The crest was in fact emblazoned on the BC flag from 1871 to 1906. The noble lion is balanced on all fours, with its head turned left facing the viewer (in heraldry the *statant guardant* attitude). This heraldic lion motif is a feature of the royal crest of England.[¶]

I wish each of you health and happiness as we and the public we serve emerge from a time of prolonged suffering. ■

—David J. Esler, MD

[§]Recently one of my EP colleagues sustained a serious head injury while mountain biking. On waking from a prolonged coma she was unable to speak or recognize her husband and children, yet immediately and accurately reproduced the Wells blood clot algorithm. Now free of family responsibilities, she continues to mountain bike and scour the ED for blood clots.

^{||}The "Hat on a Cat on a Hat," (i.e., *coronam super leonem super coronam*).

[¶]Barbary lions, cited by British monarchs for their virtues—nobility, royalty, strength, stateliness, and valor—did not lead fulfilling lives as guests of the Crown at their official residence in the Tower of London menagerie. Notwithstanding their royal status, they would doubtless have preferred chasing Barbary sheep and stag over the sunny sands of North Africa to languishing in a damp, dreary, and wretched British prison/zoo.

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.

BC Society of Allergy and Immunology statement on the climate crisis

We, allergists and immunologists of British Columbia, working on the traditional, ancestral, and unceded territory of the Indigenous peoples, want to raise our imperative concerns about the climate crisis, including global warming, glacier melting, rising sea levels, air pollution, water shortages, drought, floods, forest fires, and zoonotic infections, which have caused major damage and disruption.

According to the American Academy of Allergy, Asthma and Immunology, many allergists have reported a wide range of health effects from climate change on their patients, including but not limited to air pollution-related increases in severity of chronic diseases, increased allergic symptoms, and injuries and death due to severe weather. The extreme heat in British Columbia during the last week of June claimed the lives of more than 300 people.

Based on a report from the Asthma and Allergy Foundation of America, warmer temperatures have caused the allergy season in the US to be significantly longer. Warmer temperatures also create more pollens in the air, stronger airborne allergens, and therefore, increased allergy and respiratory symptoms.

As physicians, we know that we cannot have healthy communities without respecting and protecting the environment.

Based on the Paris Agreement in 2015, Canada committed to decreasing greenhouse gas emissions. The report from Environment and Climate Change Canada shows that greenhouse gas emissions in Canada increased between 2015 and 2019 from 723 to 730 megatons of CO₂ equivalent. During the same period, there was a reduction in CO₂ emissions in the UK of

more than 10%. This alone shows that Canada has not done enough to address global warming. More than 6 years into the Paris Agreement, Canada has not even submitted the 2020 Nationally Determined Contribution, which was due in February 2020. The delay was blamed on the pandemic. The reality is that the climate crisis is as real as the pandemic and could be even more catastrophic if not addressed immediately.

We are asking the Canadian government to be committed to the Paris Agreement by setting clear pathways and targets for reducing greenhouse gas emissions. We agree with the Canadian Association of Physicians for the Environment, which suggests an independent body of scientific experts who report to Parliament is needed to audit the alignment of the government policy with climate goals.

Canada must quickly progress toward using clean, renewable energy; ban new fossil energy development, including fracking; and instead invest in renewable energy infrastructure. Quebec, New Brunswick, Nova Scotia, and Newfoundland have banned or suspended fracking. This should be expanded to the rest of the country. Pipeline expansions should be canceled.

Fracking and crude oil pipelines harm the environment by contaminating our farmland, using and contaminating excessive amounts of water, causing earthquakes, and advancing global warming by releasing methane gas. Such operations also threaten wildlife and disturb natural ecosystems by industrialization. Such effects have already impaired wildlife and if not stopped will negatively and significantly impact human lives.

We demand the Government of Canada and the Government of British Columbia stop fossil fuel subsidies and instead invest in clean energy.

As settlers on unceded territory, we have a

duty to uphold this land to the same standard of care and respect as the Indigenous peoples who originally resided on and who still reside on and protect this land, water, and animals.

—Mandana Kaviani, MD

—Bahar Torabi, MDCM

—Raymond Mak, MD

—Edward Coates, MDCM

—Peter Stepaniuk, MD

—Seung Kim, MD

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—Sara Leo, MD

—Siobhan Perkins, BMBS

—Joyce Yu, MDCM

—Shamim Wadiwalla, MBBS

—Manbir Sandhu, MD

—Tiffany Wong, MD

Re: Restrictions on private health insurance

I am disappointed that the *BCMJ* allows Dr Brian Day (who is on the Editorial Board) to use the journal to advance the issues of his own ongoing litigation [2021;63:197]. This is not the first time he has been allowed to do this, and it is a potential conflict of interest.

I am surprised that the *BCMJ* would permit Dr Day to mention that Justice Steeves received care at government expense at the False Creek Surgical Centre: this is totally inappropriate and a serious breach of Justice Steeves' personal

information. It is not at all clear how this disclosure advances what Dr Day is proposing in his editorial. I suggest that the *BCMJ* follow up with Justice Steeves about this disclosure.

—Liz Keay, MD, MHSc, FRCPC, PhD
Victoria

Editorial Board members are free to compose editorials on topics of their choice. The content of each editorial reflects the opinions of the author.

Dr Day has disclosed his potential conflict of interest in his bio on our website.¹ Regarding Justice Steeves' personal information, he himself disclosed at the beginning of the trial that he had surgery (government funded) at Cambie. This was not so, and on being informed of his error, he stated he had erred, and clarified that it was at the False Creek Surgical Centre. This information has been in the public domain since 2016.²

The point of Dr Day's statement is to underline the fact that the BC government considers it has the right to send patients who are waiting for surgery to private clinics, but denies citizens that same right. —Ed

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1. Editorial Board. *BCMJ*. Accessed 4 August 2021. <https://bcmj.org/editorial-board>.
2. Fayerman P. BC government lawyer says judge disclosed all details of his private clinic surgery. *Vancouver Sun*. 16 May 2017. Accessed 4 August 2021. <https://vancouversun.com/health/local-health/b-c-government-lawyer-says-judge-disclosed-all-details-of-his-private-clinic-surgery>.

The fate of historical documents

In May 1954, the editor of the *Vancouver Medical Association Bulletin* wrote, “This issue of the Bulletin is intended to commemorate one of the greatest events in the medical history of British Columbia—the granting of the degree of Doctor of Medicine to the first graduates from the Faculty of Medicine of the University of British Columbia. This is a matter of intense pride and satisfaction to all citizens of British Columbia, and in no lesser degree, we think, it is important to the whole of Canada: for it marks the beginning of a steady stream of well-trained medical men and women, made available to the whole medical structure of our country.” This is quoted from a document preserved at the UBC library.

There are many other documents recording the history of our profession, our organization, and our relationships with society. Dr Brad Fritz wrote two histories related to the BC Medical Association and Doctors of BC: a history of publicly funded medicare and a history of the BCMA from 1965. Dr Frank Patterson, an original UBC Medical School teacher, reminisced of many old surgeons in *The Cutting Edge: Reminiscences of Surgery at the Vancouver General Hospital and the University of British Columbia, 1915–1985*. Wendy Cairns recently published a history of UBC Medical School. All these histories rely in large part on original sources.

I recently had the privilege of reviewing the minutes of Medical Staff Association executive and general meetings from Royal Columbian Hospital (RCH) dating back 70 years to 1950. They describe some battles and conflicts, some of which were not solved immediately. Indeed, on the first page of the minutes from 1951, we find the report of the OR service: “Anaesthetists and surgeons have been late in starting operations. The matter is to be brought up at the general meeting and some form of discipline applied to consistent offenders ... It was suggested that the offenders be banned from elective surgery booking.” One can presume that the punishment was not implemented since the problem has not completely disappeared—or perhaps new generations of surgeons and anaesthetists have started offending again. Who would imagine that we have not learned that lesson!

I happened upon these valuable historical documents because the RCH is currently rebuilding, and the documents were stored in the basement of a building that is now a hole in the ground. Our structures have undergone constant reorganization of one sort or another; consequently, many others will likely face the problem I am currently addressing of what can be done with these important historical documents.

Medical staff associations have become essentially virtual in structure. Storing memorabilia and records is not a priority for health authorities, and carving out a space for them can be a significant challenge. However, without storage for such documents our local history will be lost.

General archives do store medical material—Vancouver General Hospital has many documents in the City of Vancouver Archives, and RCH similarly has some material stored in the New Westminster Archives. However, these organizations suffer from space constraints as well, and I have not found them and other local institutions willing to adopt further material such as the MSA records. There appears to be a NIMBY attitude toward storage of documents—sure, it's important, and good for you for thinking of it, but I'm sorry my backyard is full.

Doctors of BC helps form the collective memory of its physician members. While also challenged for space, it does support an archival system and has staff devoted to that task, and it may be a uniquely suitable repository for such records. It has been said, “Those who cannot remember the past are condemned to repeat it,” and indeed many of the issues we contend with today are ones we have seen before. Let us not repeat the errors. I propose that Doctors of BC take on the small job of facilitating this project.

—Richard N. Merchant, MD, FRCPC

Past President, RCH Medical Staff Association

Re: Delay in diagnosis and management of adolescent ACL injuries

I am not surprised by the finding that discrepancies exist in the W0 time between individuals. Further studies on this, as suggested in the article [*BCMJ* 2021;63:211–216], would be helpful. However, I am concerned that the authors' recommendation that all adolescent patients presenting with an acute hemarthrosis be referred for an MRI will only lengthen the W0 time. These patients will join the ever-ballooning pool of people waiting for unnecessary musculoskeletal MRIs.

It also suggests that the presence of a hemarthrosis is, in fact, identified. In today's medical climate of COVID-19, precipitated telephone consultations, and Babylonian primary care that may not be the case.

The paper referenced in Dr Leveille's article (Ardern CL and colleagues), recommending the need for an MRI, itself references a paper by Kocher MS and colleagues (*Am J Sports Med* 2001;29:292–296) to support this

recommendation. This is perplexing, as the conclusion of that paper is “MRI does not provide enhanced diagnostic utility over clinical examination.”

Having recently treated two adolescents with locked knees who presented late due to the wait for unnecessary MRIs, I would advocate for Dr Leveille and colleagues’ other recommendation: the urgent referral of all adolescents with an acute knee hemarthrosis (swollen knee) from the primary care or urgent care provider.

—Roger Purnell, MBChB
Orthopaedic surgeon, UHNBC
Prince George

Authors reply

Thank you for your comments on our article [*BCMJ* 2021;63:211-216]. We agree that a primary care provider should see and examine all adolescents with an acute knee injury. In today’s health care climate, a screening virtual visit can be offered as an initial evaluation; however, this should be promptly followed by a physical

examination if there is any history of concerning symptoms such as swelling, loss of motion, or instability. As is outlined by the College of Physicians and Surgeons of BC practice standard on virtual care, it is unacceptable to defer a physical examination because the virtual care medium does not allow for one. Virtual care is most appropriately used when access to in-person care is provided as needed to follow the virtual consultation. Adolescent patients with an acute knee injury, or history of one, should be promptly examined by a primary or urgent care provider and referred to an orthopaedic specialist when indicated.

An MRI should be requested urgently in all adolescent knee injuries presenting with an acute hemarthrosis but should never postpone referral. Often, a conversation with the radiologist is needed to advocate for a timely MRI in this patient population so that they are appropriately triaged for this investigation. This is our opportunity to advocate for patients who cannot advocate for themselves, and who

should be triaged to receive their MRI prior to an adult waiting for an MRI that will not guide clinical management.

It is unfortunate to hear about your recent clinical experience with delayed presentation of adolescent patients with locked knees. Thank you for clarifying the cause of their delayed presentation. We hope that our article will not only bring attention to the problems associated with a delayed presentation in this patient population, but also empower orthopaedic surgeons locally to advocate and provide urgent access clinics for adolescent knee injuries. The solution to this problem is education for our primary care colleagues and accessibility to specialist consultation.

—Lise Leveille, MD, MHSc

—Tessa Ladner, BSc

—Christopher Reilly, MD

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Respect. Honor. Dignity.

I appreciate everyone's feedback about my President's Comment columns and President's Blog posts. If you have time, write to me to share your thoughts. This time, I want to reflect on something a little more personal: values. They guide us in all aspects of our life—they reflect our sense of right and wrong, they help us grow and develop both personally and professionally, and they are a driving force behind our daily decisions. But just as we as individuals differ, so do our values. I'd like to share with you three values that guide how I treat

others and make sense of our increasingly complex world. They are respect, honor, and dignity.

Respect. Growing up I followed the golden rule: "Treat others as you want to be treated." This is an adage shared by many cultures. Later, I was introduced to the upgraded platinum rule: "Treat others as *they would like* to be treated." This is fundamentally different. The golden rule is based on *my* standard. What I want. The platinum rule is about *your* standard. What *you* want. We need to consider, ask, and learn how people want to be treated. In the same way that I cannot tell you how you should feel about something, I cannot tell you how you should be treated. That is for you to tell me. This is the essence of respecting someone.

Honor. This is a bit harder to describe as it can mean different things to different people, cultures, and generations. I describe it as a pattern of certain behaviors: honorable people keep their word, maintain confidences, tell the truth, and admit when they are wrong. Honorable people engage in conflict in a thoughtful, considerate way. You could say that honorable people like to play fair. Children seem to have a strong sense of what is honorable, or at least what is not. They react almost viscerally to perceived unfairness, underhandedness, and dishonesty.

Lastly, dignity. This is the state of deserving respect and honor. It is deeply tied to the value we feel as human beings and the ability

we have to make our own choices in life. And while dignity is something that we each have owing to our very existence, there are times when we are made to feel like it has been taken away—we are made to feel small, insignificant, and powerless. This loss weighs more heavily than the loss of any material possession or title. It is as if something from our very being has been stripped away. So, imagine a world in which we all sought to protect and even enhance one another's dignity. We would raise each other up. We would lend one another strength. We would seek to share power rather than to take it or hoard it. We would never let anyone feel small and insignificant.

We exist in a world with increasingly complex problems, problems that money and technology alone cannot solve. In such an uncertain world, what we value and how we treat one another is something that we *can* be certain of. When I think about concepts such as equity, diversity, inclusiveness, antiracism, and reconciliation, I sense a common theme. Respect. Honor. Dignity. Their absence is acutely felt. Their loss, a traumatizing and sometimes enduring experience. But we can make a difference by asking people how they want to be treated, behaving in an honorable fashion, and cherishing one another's dignity. ■

When I think about concepts such as equity, diversity, inclusiveness, antiracism, and reconciliation, I sense a common theme. Respect. Honor. Dignity. Their absence is acutely felt.

—Matthew C. Chow, MD
Doctors of BC President


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Limitations of infrared thermography make skin-surface temperature scans an unreliable COVID-19 detection tool

Used to generate a heat map of infrared radiation emitted by heat sources, such as body temperature, infrared thermography scans have become the go-to for mass detection of illnesses such as COVID-19.

Read the article: bcmj.org/news-covid-19/limitations-infrared-thermography-make-skin-surface-temperature-scans-unreliable-covid

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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.

Parental leave and implications for disability insurance

Insurance advisors recommend you review your insurance portfolio any time you experience a major life change, and becoming a parent definitely counts. You may be unaware that this major change can also impact your disability insurance. Here are some considerations to keep in mind as you plan and return from your parental leave.

During pregnancy: You may be able to claim a disability benefit if you experience complications of pregnancy that affect your ability to work or if you deliver a baby via cesarean section. These

types of claims are available for people who are insured through the government-funded Physicians' Disability Insurance (PDI). If you experience complications that affect your ability to work for more than 14 days, you may claim disability benefits from that time until you give birth. Complications of pregnancy are covered under most disability policies, including professional expense insurance plans, but the longer waiting periods (90 days is most common in the insurance industry) often mean that many complications of pregnancy don't qualify for claim. If you give birth via C-section, PDI pays a 6-week recovery benefit.

For parents of a newly born or newly placed adoptive child: If you have professional expense

insurance through Doctors of BC, you may be able to make a claim for part of your overhead expenses to be covered through the parental leave benefit built into the coverage. This allows for reimbursement of any ongoing business expenses up to the lesser of 50% of your benefit or the current maximum Employment Insurance benefit. You can claim for up to 17 weeks following delivery or date of placement.

When you're returning to work post-parental leave: If you rely on PDI for a significant part of your disability insurance strategy, speak with an insurance advisor to determine if you should make adjustments to your insurance. PDI is calculated on actual billings or income earned

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Dr Sophia Park, Chair



Dr Adam Thompson, Vice-chair

New chair and vice-chair appointed by Doctors of BC Board

The Board of Directors of Doctors of BC elected a new chair and vice-chair at its meeting on 11 June 2021. After 4 years as chair, Dr Jeff Dresselhuis did not stand for re-election, and following a vote, Dr Sophia Park became the new chair and Dr Adam Thompson the new vice-chair. Information about the Board is available at www.doctorsofbc.ca/about-us/governance-and-representation/board-representative-assembly.

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Our path toward a more **equitable, diverse, and inclusive** Doctors of BC

BC doctors are a diverse group comprised of different genders, racial backgrounds, religious affiliations, sexual orientations, ages, specialties, practice locations, and more. As physicians, our members also serve a patient population that is equally as diverse in their backgrounds and in their health care needs.

Meaningful work continues to take place on our path to ensuring Doctors of BC is **representative and inclusive of the diversity of our members**, and to supporting our members in contributing to efforts to **ensure BC's health care system is culturally safe, equitable, and inclusive** for providers and patients alike.

For more information visit our updated Equity, Diversity & Inclusion webpage which includes a newly developed vision statement, information on the recently created Diversity and Inclusion Advisory Working Group, details on our ongoing work advancing Indigenous cultural safety and humility, and much more.



For more information visit
doctorsofbc.ca/EDI

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DOCTORS OF BC AWARD NOMINATIONS

EXCELLENCE IN HEALTH PROMOTION AWARDS

NOMINATE A
HEALTH CARE
LEADER

Do you know of an individual or a group that has enhanced the health or safety of their community? Whether it's ensuring vulnerable populations have access to the health care they need, those who are isolated are engaged in community events, or making sure young people actively participate in health promotion initiatives - individuals or a group, or non-profit or corporation, can be recognized.

Deadline to apply is Friday, October 8th.

DR DAVID M. BACHOP GOLD MEDAL

RECOGNIZE
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MEDICAL SERVICE

Do you know of a doctor who has made an extraordinary contribution in the field of organized medicine and/or community service that should be recognized? The achievement should be so outstanding so as to serve as an inspiration and a challenge to the medical profession in British Columbia.

Deadline to apply is Friday, October 8th.

CHANGEMAKER AWARD

NOMINATE A
MEDICAL
STUDENT OR
RESIDENT
WHO IS MAKING
A DIFFERENCE

Are you, or do you know, a medical student or resident who demonstrates, through exemplary leadership, outstanding advocacy work that advances health policy, supports quality patient care, or improves the medical training process? If so, nominate them for Doctors of BC's Changemaker Award and give them the recognition they deserve - and the chance to win \$2,000!

Deadline to apply is Friday, October 15th.

Application and criteria information are available at
doctorsofbc.ca/awards

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in BC, so if you are planning to return to work in a part-time capacity, your PDI benefit may reduce (due to lower income). Depending on your income and the amount of coverage you have in place, this may result in a period of being underinsured.

Please get in touch with us if you have questions (econnors@doctorsofbc.ca). Doctors of BC licensed insurance advisors are available to give personalized advice; the above describes general features of the plan that aren't applicable in every situation.

—Erin Connors

Advisory Services Manager, Members' Products and Services

Access patient information with CareConnect

A province-wide electronic health record (EHR) is enabling health care providers to access key patient information in one place. Offered and supported by the Provincial Health Services Authority (PHSA), CareConnect (Provincial eHealth Viewer) is a secure, view-only EHR that shows information like visits, labs, imaging reports, immunizations, and medications. It can also identify other clinicians involved in a patient's care, as well as provide information to facilitate patient triage and develop care plans.

Top five things to know about CareConnect:

- There is no cost to physicians or clinics.
- CareConnect saves physicians and MOAs time; no need to track down reports or order duplicate tests and procedures.
- CareConnect is available with a regular Internet connection or through the Private Physician Network.
- Rapid access feature may be available from an EMR, allowing providers to view a patient's information in CareConnect within 20 seconds.
- Physicians can get started by completing the CareConnect Worksite Intake Form; the enrolment process is supported by PHSA.

Learn more about CareConnect at www.vch.ca/for-health-professionals/resources-updates/careconnect. Email questions to private.careconnect@phsa.ca.

Save the date: SSC Symposium 2022

Specialist physicians are invited to collaborate on how to improve specialty care in a post-pandemic world at an in-person, full-day symposium. The event will take place on Friday, 21 January 2022, at the Westin Bayshore hotel in Vancouver. This symposium, *A New Day: Emerging Priorities in Specialty Care*, is presented by the Specialist Services Committee—a partnership of Doctors of BC and the BC government—and Specialists of BC. Get the latest event news at www.sscbc.ca/symposium2022.

BC Seniors' Guide, updated

The updated *BC Seniors' Guide* provides information on health, housing, finances, community supports, and more to help seniors continue living well. Print copies of the enhanced 12th edition are available in English, Chinese, French, Punjabi, Farsi, Korean, and Vietnamese. All languages can be accessed online in PDF format. The English version is online in an e-book format.

The guide includes information on programs such as:

- Fair PharmaCare.
- Medical Services Plan.
- The Home Adaptations for Independence program, which provides financial assistance for low-income seniors to modify their homes.
- Shelter Aid for Elderly Renters, which helps make rents affordable for low- to moderate-income seniors.
- The BC Senior's Supplement, which offers a provincial top-up to the federal Old Age Security/Guaranteed Income Supplement payment.
- The Travel Assistance program, which offers discounts for travel within the province for medical specialists' services not available in local communities.
- The BC Bus Pass program, which offers subsidized bus passes to low-income seniors.

The 12th edition includes sections on digital literacy, cultural safety, LGBTQ2S+ supports, and medical assistance in dying. The guide

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Spoken interpretation services available to community specialists

When working in their community offices, specialists can access free spoken language interpreting services as part of a 1-year pilot project, funded by the Specialist Services Committee (SSC)—a partnership of Doctors of BC and the BC government.

SSC is providing \$50 000 for this pilot project in response to physicians' feedback about supporting the delivery of safe and equitable patient care to diverse populations. Previously, this service was available to specialists who chose to pay privately or who work within the boundaries of health authority sites.

Accessible through the Provincial Language Service, professional interpreters offer services that are available:

- Via telephone.
- 24 hours a day, 7 days a week.
- On demand.
- In roughly 240 languages.

How specialists can connect with an interpreter:

1. Call 1 833 718-2154 (toll free).
2. Select a language.
3. Enter your access code, which was emailed to you by your section head, or contact SSC at sscbc@doctorsofbc.ca.
4. Indicate you are a member of Doctors of BC.
5. Wait 30 to 60 seconds to connect with an interpreter.

For more information, visit www.phsa.ca/health-professionals/professional-resources/interpreting-services.

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directs individuals to the BC Centre for Disease Control for information on COVID-19.

To access the *BC Seniors' Guide* in all seven languages, visit www.gov.bc.ca/seniorsguide. To order free print copies, call (toll-free) 1 877 952-3181.

Insight into diagnostics, treatment for severe *C. diff* infection

Clostridioides difficile (*C. diff*) is the leading cause of gastroenteritis-associated death in North America. While most people affected will fully recover, new research from Vancouver Coastal Health Research Institute scientist Dr Theodore Steiner explores how to identify the roughly 25% to 35% of patients who will experience recurrent or severe infection.

The Centers for Disease Control and Prevention defines *C. diff* as a significant health concern because it can cause life-threatening diarrhea and inflammation of the colon. At greatest risk of becoming dangerously ill or dying due to the infection are people ages 65 and older who take antibiotics, along with individuals with a prior *C. diff* infection and people who are hospitalized or living in long-term care homes. Young and middle-aged adults can also be plagued by recurrent infections that cause life-altering diarrhea, abdominal cramps, and potential hospitalizations.

Dr Steiner is a professor and the head of the Division of Infectious Diseases, an associate member in the Department of Microbiology and Immunology at the University of British Columbia, and a researcher in the Immunity and Infection Research Centre. His research, published in *Gastroenterology*, found that CD4+ T-cell immune response to the *C. diff* toxins A and B was higher among patients who experienced recurrent or more severe *C. diff* infection compared with individuals with their first episode of *C. diff*. Part of the body's immune system, CD4+ T-cells are specialists in gut-related infections. They can help fight *C. diff* by recruiting cytokine molecules to signal the immune system to attack the infection and to produce antibodies that neutralize the toxins, preventing them from damaging cells.

A potential biomarker, the greater presence of CD4+ T-cell response to the *C. diff* A and B toxins could help clinicians identify which patients are more likely to recover through first-line antibiotic treatments, and which may require additional interventions.

Fecal transplantation as alternative therapy for treatment-resistant *C. diff*

C. diff infection occurs through ingesting the pathogen, which is found in water, soil, food, and human and animal feces. Once infection occurs, the first-line treatment is a course of antibiotics, such as vancomycin or metronidazole. These medications work by destroying bacteria in the intestines. However, they do not block the *C. diff* A and B pathogenic toxins that cause damaging inflammation. They also destroy healthy gut bacteria, which can create a more favorable environment for *C. diff* recurrence or reinfection. Patients who do not respond to at least two rounds of antibiotics may be prescribed fecal microbiota transplantation (FMT), a well-established procedure in which stool from a healthy donor is transplanted into the patient's gastrointestinal tract.

In another study published in *Gastroenterology* in January 2021, Steiner found that this second-line treatment for recurrent and severe *C. diff* improved Th17 counts—a type of CD4+ T-cell—as well as antibodies to *C. diff* toxins A and B, all of which supported the greater balance of healthy gut flora essential to disease recovery.

Studies have shown a 90% global effectiveness of FMT on this patient cohort, according to Steiner. While more involved than antibiotic treatments, the Health Canada-approved intervention may be the best option for many people with a treatment-resistant infection.

Steiner is currently recruiting adults ages 18 and older with a first instance of *C. diff* infection for his new onset *C. diff* study. For more information, contact study coordinator Laura Oliveira at laura.oliveira@ubc.ca.

Probiotics may aid in relieving Parkinson disease-related anxiety

Research led by Vancouver Coastal Health Research Institute scientist Dr Silke Appel-

Cresswell is the first to examine whether a multistrain probiotic could help relieve anxiety symptoms in people with Parkinson disease. Parkinson disease often causes muscle rigidity linked to reduced dopamine levels, along with tremors or slowed movements. Dopamine replacement therapy can help relieve symptoms of anxiety and stiffness among some patients, but existing treatments take a while to kick in, and often wear off within a few hours.

For her randomized, triple-blind and placebo-controlled clinical trial, “Treating Anxiety in Parkinson’s Disease with a Multi-Strain Probiotic (TAP),” Appel-Cresswell is recruiting adults with Parkinson disease ages 40 to 80 to investigate the effectiveness of the Ecologic BARRIER849 probiotic as an anxiety reduction treatment. The over-the-counter probiotic—not currently available in Canadian stores—contains a mixture of live bacterial cultures targeted at promoting a healthy gut flora, which the research team believes may set off a chain reaction that stops the anxiety cycle.

New treatment would target the microbiome of Parkinson disease patients

The guts of Parkinson patients often face a variety of challenges, says Appel-Cresswell. Constipation is a very early and very widespread symptom. Their gut's microbiome is also more likely to drive inflammation. This inflammation causes damage to the gut barrier—composed of mucosal membrane and other protective cells—allowing bacteria and toxins to escape, Appel-Cresswell explains.

Leaked toxins may contribute to elevated levels of damaging microbial metabolites in Parkinson disease patients, which Appel-Cresswell identified in her prior research. These toxins have also been found in higher concentrations in patients' cerebral-spinal fluid, says Appel-Cresswell.

Bacterial strains contained within the Ecologic BARRIER probiotic have been found to improve gut barrier function and mood, possibly due to its rebalancing of gut flora and promotion of healthy gut bacteria, says Appel-Cresswell.

To test whether or not this is true for Parkinson disease patients, participants in Appel-Cresswell's study will complete a variety

of motor function, cognition, and neuropsychiatric tests before and after a 12-week trial of one sachet twice daily probiotic or placebo powder. Results will be evaluated for changes in participants' anxiety levels, motor function, levels of fatigue, depression, and microbiome composition.

To learn more about the TAP study, contact coordinator Petra Uzelman at 604 827-0576 or petra.uzelman@ubc.ca.

BC introduces new prescribed safer supply policy

British Columbia is phasing in a new policy to expand access to prescribed safer supply. The province is directing funding up to \$22.6 million to the health authorities over the next 3 years to lay the foundation for this new approach. The funding will support the planning, phased implementation, monitoring, and evaluation of prescribed safer supply services.

At the start of the pandemic, BC provided access to some prescribed safer supply medications. Building on what was learned, BC is expanding access to prescribed safer supply to reach more people. Once fully implemented, people who use drugs and who are at high risk of dying from the toxic illicit drug supply will be able to access alternatives covered by PharmaCare, including a range of opioids and stimulants as determined by programs and prescribers.

The Ministry of Mental Health and Addictions introduces this policy following work with partners and stakeholders, including medical doctors, nurses, pharmacists, people with lived and living experience, the First Nations Health Authority, all regional health authorities, and Indigenous-led organizations. The policy was developed within the limits of the federal Controlled Drugs and Substances Act, which requires controlled substances be provided by prescription.

The new policy will roll out through a phased approach, beginning with implementing the policy in existing health authority-funded programs that currently prescribe alternatives to illicit drugs (e.g., opioid agonist treatment, oral and injectable tablet programs) and through newly created programs such as service hubs and outreach teams, supported by Budget 2021. Prescribed safer supply services will also be delivered through the federally funded Safer programs.

The first phase of this new policy is expected to be in place for 18 to 24 months as data are collected to assess this approach. Phased implementation ensures patient and prescriber safety, as well as providing opportunity for rigorous monitoring and evaluation as BC builds a body of evidence that will lead to clinical guidance for this policy.

Further phases will expand broader access once the clinical guidance is developed based on findings from the monitoring and evaluation process.

Do you have an idea?



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Brian Deady, MD, FRCPC, Vesna Ivkov, MHSc, CCRC, John Taylor, MD, MPH, FRCPC, Myint Tun, DrPH, MPH, MBA, Julie Gillis, RN, BScN, MHST, Ashley Tisseur, RN, BSc, BScN

Point prevalence of asymptomatic COVID-19-positive hospital personnel on high-risk wards in a large urban hospital in British Columbia

Routine screening of on-duty asymptomatic COVID-19-positive hospital personnel is unlikely to be useful where there is 100% compliance with PPE use and community prevalence is controlled.

Dr Deady is an emergency physician in the emergency department at Royal Columbian Hospital, and a clinical associate professor in the Department of Emergency Medicine at the University of British Columbia. Ms Ivkov is a research coordinator, Trauma and Emergency Networks, at Royal Columbian Hospital, and an adjunct faculty member in the undergraduate program at the UBC Faculty of Medicine. Dr Taylor is an emergency physician and the research director in the emergency department at Royal Columbian Hospital, and a clinical instructor in the Department of Emergency Medicine at the University of British Columbia. Dr Tun is an independent consulting epidemiologist. Ms Gillis is an emergency department nurse at Royal Columbian Hospital, and a full-time faculty member in the Bachelor of Science in Nursing program at Douglas College. Ms Tisseur is an emergency department nurse at Royal Columbian Hospital.

This article has been peer reviewed.

ABSTRACT

Background: Routine screening of asymptomatic COVID-19-positive hospital personnel has not been implemented in BC. This study was conducted to address this shortcoming and support a culture of safety in Royal Columbian Hospital, a tertiary-care facility in a large urban centre.

Methods: We recruited volunteers from hospital personnel on duty in high-risk wards to identify the point prevalence of asymptomatic COVID-19-positive staff. Testing was conducted using nasopharyngeal swabs processed by reverse transcription–polymerase chain reaction assays.

Results: Over 2 days of screening, 140 hospital personnel from two high-risk wards—the emergency department and intensive care unit/high acuity unit—volunteered for testing. All samples were negative for COVID-19.

Conclusions: With strict use of personal protective equipment, routine screening for asymptomatic infection in hospital personnel who are regularly exposed to the SARS-CoV-2 virus is not warranted at Royal Columbian Hospital where community prevalence is held in check.

Background

While several studies have identified asymptomatic COVID-19-positive health care workers among on-duty hospital personnel,¹⁻⁵ others have not.^{6,7} Mass COVID-19 screening of asymptomatic hospital personnel has been conducted at some facilities in Canada,^{8,9} but no routine screening has been carried out in BC. Our study sought to address this shortcoming by identifying the point prevalence of asymptomatic health care workers who tested positive for COVID-19 while on duty on three high-risk wards at Royal Columbian Hospital, a tertiary-care facility in a large urban centre located within the Fraser Health Authority of British Columbia. The information gleaned from the investigation could be used to support a culture of safety in the hospital while emphasizing prevention measures.

Methods

The intent of our research—approved by the Research Ethics Board of the Fraser Health Authority—was to conduct convenience sampling of hospital personnel on three high-risk units where COVID-19 patients received care: the emergency department, the intensive care

unit (ICU)/high acuity unit (HAU), and the COVID-19 inpatient ward. Sampling was conducted over a 3-day period, and all personnel in the sample had volunteered for testing. The operational gold standard,¹⁰ the nasopharyngeal swab processed by a lab-based reverse transcription–polymerase chain reaction (RT-PCR) assay, was used for screening.

Based on mandatory daily health checks, the researchers assumed any hospital personnel present and working on the days of testing had self-declared as asymptomatic, was fit for work, and therefore was eligible for testing. Any hospital personnel employed on the ward in question, whether they had direct or indirect patient contact, was eligible for voluntary enrolment. Sample collection straddled shift change such that a full day's roster could potentially be tested over an 8-hour period.

Consent was obtained at the point of entry during the registration process, at which time potential volunteers also answered a few demographic questions, which included their age and job title. After completing the sampling protocol in the ICU/HAU and emergency department, the study was halted due to province-wide nasopharyngeal testing constraints caused by a shortage of reagent. In the end, we could not recruit volunteers in the COVID-19 inpatient ward. This was the third time the study was halted; the first two times occurred during the first wave of the pandemic because the provincial and regional laboratories could not accommodate testing of research samples.

Each volunteer was notified of their test results by phone call or email. Telephone follow-up on symptom development was scheduled on day 14 for all positive results, in an effort to separate truly asymptomatic individuals from those who were presymptomatic.

Statistical analysis

We hypothesized the asymptomatic disease prevalence of hospital personnel to be 1%, based on the range of 0% to 14% reported in the literature.^{1-9,11,12} For a cross-sectional study with the anticipated prevalence of 1%, a type 1 error of 5%, and absolute precision of 2% (1% ± 2% or 0% to 3%), a sample size of 96 was needed.¹³ Descriptive statistical methods were used for analysis, which was performed using SPSS version 25.

Results

On 23 November 2020, 48 of 116 (41%) hospital personnel who were on duty in the ICU/HAU over the 24-hour period volunteered for the study. On 26 November 2020, 92 volunteers from an estimated total of 140 in the emergency department, including a number of paramedics, were tested. The sample size in the emergency department represented 65.7% of the available workforce.

The sample included a representative cross-section of hospital personnel employed on the two wards [Table]. Registered nurses, including registered psychiatric nurses, accounted for 48.9% of the total number of collected samples in the emergency department and 64.6% in the ICU/HAU.

All 140 samples collected were negative for COVID-19. Because there were no positive cases, the 2-week telephone follow-up was not conducted.

Discussion

This study sought to define the point prevalence of asymptomatic COVID-19-positive hospital personnel on duty in the emergency department, ICU/HAU, and COVID-19 inpatient ward. All personnel were eligible to volunteer whether they had direct or indirect patient contact, as other studies have found positive cases in both groups.^{1,2}

For months, Fraser Health had been the provincial health region with the highest burden of COVID-19. The incidence in Fraser Health for the study week of 22–28 November 2020 was 146/100 000, while the nasopharyngeal swab test positivity was 10.4%.¹⁴ However, the health authority is geographically vast and the intraregional incidence of COVID-19 varies greatly. The case rate for the North Fraser region, an area within Fraser Health that corresponds to the catchment of Royal Columbian Hospital, was 75/100 000, and the test positivity was 4.3% during the study week.¹⁴ On 23 November 2020, 10/30 beds in the ICU/HAU were occupied by COVID-19 patients.

We expected to find asymptomatic COVID-19-positive hospital personnel on duty on high-risk wards in our hospital based on published data.^{1-5,8,11} While it is noteworthy that the study that reported the highest prevalence

TABLE. Number of hospital personnel voluntarily tested for COVID-19.

Job title	Intensive care unit/high acuity unit	Emergency department
Care aide	4	7
Housekeeper	—	1
Physician (resident)	5	8
Medical imaging staff	—	3
Medical lab assistant	—	2
Paramedic	—	19
Physiotherapist	—	1
Registration/unit clerk	3	4
Registered nurse	31	42
Registered psychiatric nurse	—	3
Security guard	—	1
Social worker	—	1
Dietitian	1	—
Respiratory therapist	4	—
Total	48	92

(14.3%) also noted there was less than 100% compliance with the use of personal protective equipment (PPE),¹ the most instructive studies are also among the largest screening studies and were completed in Toronto and Cambridge, England.^{8,9,11,12}

The study in Cambridge was conducted over 3 weeks in April 2020; it sampled 1032 health care workers and documented a 3% positivity rate, of which only 0.5% were truly asymptomatic.¹¹ Considered in light of the estimated false positive rate for RT-PCR of 0.8% to 4%,¹⁰ the significance of the Cambridge finding is unclear; regardless, by mid-May, the prevalence had declined to zero¹² following the UK lockdown.

The RESPECT trial⁸ conducted in the University Health Network hospitals in Toronto

was implemented from mid-April to the end of May 2020. The researchers identified 29/5776 (0.5%) positive nasopharyngeal swabs in asymptomatic health care workers. In another large hospital system in Toronto, a study conducted from the end of May to mid-June 2020—a time of declining community prevalence—indicated that of the 2751 health care workers tested, only 0.2% were positive, all of whom were either mildly symptomatic at the time of testing and did not self-identify, or later developed symptoms.⁹

Although we could not collect data from the COVID-19 inpatient ward, there is little chance the results would be different. The use of PPE and other measures aimed at reducing nosocomial viral transmission is effective, and it has been demonstrated that there is little difference in prevalence from one ward to another.¹⁵

Current infection prevention strategies used in health care are effective in preventing patient-to-health care worker transmission in the workplace.¹⁶ SARS-CoV-2 infection among health care workers likely reflects community transmission rather than in-hospital exposure.^{16,17} It seems probable that now, in the era of strict compliance with the use of PPE, truly asymptomatic COVID-19-positive health care workers form a very small, perhaps even negligible, subset of the workforce. Routine screening of asymptomatic health care workers seems an inefficient use of resources in our hospital.

Our study had limitations: only a small convenience sample was obtained at a single site, and due to provincial testing limitations, only two of three high-risk wards were screened. Therefore, the generalizability of our results may be limited. Although impossible in Fraser Health at the time of the study, periodic random sampling of on-duty health care workers on different wards at multiple sites would likely yield results with better generalizability.

Conclusions

Due to ongoing testing constraints in BC, it was difficult to conduct a study that used lab-based RT-PCR assays of nasopharyngeal swabs from hospital personnel who volunteered for testing. Hence, we were able to conduct only a small single-site study of the point prevalence of asymptomatic COVID-19-positive hospital

personnel on two of three high-risk wards. Because none of the hospital personnel in our study tested positive for COVID-19, routine screening for asymptomatic COVID-19-positive hospital personnel on duty is unlikely to be useful in Royal Columbian Hospital, where there is 100% compliance with the use of PPE, and community prevalence is held in check. ■

SARS-CoV-2 infection among health care workers likely reflects community transmission rather than in-hospital exposure.

Competing interests

None declared.

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Tiffany Wong, MD, FRCPC, Chisato Ito, MPH, Raymond Mak, MD, FRCPC, Bethina Abrahams, Judy Dang, BA

Use of quality improvement science to improve the accuracy of drug allergy status in pediatric patients after allergist assessments

This study outlines a process for accurately documenting drug allergy status in electronic medical records in hospital and community systems and ensuring consistency among those systems so that patients receive the correct medical treatment.

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This article has been peer reviewed.

ABSTRACT

Background: Documentation of drug allergy status (allergic versus not allergic) of pediatric patients following assessment by an allergist can vary among electronic medical record systems. Inaccurate documentation can affect future medication selection, and lead to suboptimal and potentially dangerous treatment being administered to the patient.

Methods: A prospective, single-centre quality improvement study of drug allergy labeling in children referred to the BC Children's Hospital Allergy Clinic was conducted. Electronic medical records of drug allergy status in two systems, BCCH Cerner and PharmaNet, were analyzed to capture hospital care and community settings, respectively. Current state analysis was performed to determine the proportion of patients who had an accurate drug allergy status in Cerner and PharmaNet. An aim statement was then created: the intent was to increase the percentage of patients who were assessed for a drug allergy and had an accurate allergy status on Cerner and PharmaNet within 30 days of being seen by an allergist to 90%. A series of iterative data collection, assessment, and improvement cycles was completed over 12 months. Data were analyzed using time series charts to assess progress and determine if changes made resulted in improvements in drug allergy labeling.

Results: Current state analysis showed drug allergy status after formal allergist assessment was correct in between 60% and 90% of the consults by month in Cerner and between 45% and 100% in PharmaNet at baseline. Sustained improvement in documentation of drug allergy status in the hospital electronic medical record was achieved, but there were challenges in improving documentation in the community electronic medical record because allergists do not have access to it.

Conclusions: Documenting drug allergy status in multiple electronic medical records results in difficulty in ensuring the records are up to date in all systems. More work needs to be done to ensure that the results of drug allergy assessments are documented in a centralized fashion and are clearly communicated among health care practitioners.

Background

Drug allergy assessments are an integral part of an allergist's clinical practice. Patients who are assessed formally by an allergist may have true drug allergies and should avoid the medication in question. Equally important is the assessment of patients who carry labels of drug allergy but are deemed not to be allergic and do not need to avoid the medication in question. For the

safety and optimal management of patients, it is important that drug allergy status is kept up to date. Electronic medical records (EMRs) are located in hospitals as well as community settings, such as pharmacies and family physician offices. In many cases, these records contradict one another, which leads to discrepancies in medical documentation. It then becomes the responsibility of health care providers and patients themselves to ensure there is clear communication with health care teams regarding drug allergy status. Braund and colleagues assessed electronic profiles of general medicine inpatients and found that 45.5% of 332 profiles were classified as having no known drug allergies/intolerances, but 15.0% of those patients had allergies documented in other electronic systems, and 9.0% were classified as having unknown allergy status; of those patients, 10.0% had allergies documented in another electronic system.¹

Multiple studies have reported persistence of erroneous penicillin allergy labels after assessment by allergists.²⁻⁶ Lachover-Roth and colleagues conducted a 56-month follow-up study after penicillin delabeling of patients:

51.4% of patients who were successfully delabeled still had a penicillin allergy label in their EMR.³ Few studies have assessed the proportion of patients who were deemed truly allergic and had drug allergy status correctly updated in their EMR.

Although some reports in the literature highlight the discrepancy in drug allergy status between EMRs after allergist assessment, no quality improvement studies that address this problem have been published. We believed that if the allergy clinic team had a standardized process for assigning drug allergy status labels, there would be increased accuracy of drug allergy status in various EMRs after consultation and assessment, which would ultimately reduce unnecessary adverse drug reactions and improve future medication selection for patients. We sought to assess the current accuracy of drug allergy status in EMRs after assessment by an allergist at the British Columbia Children's Hospital (BCCH) Allergy Clinic and to test changes for improvement that could ultimately be implemented. We also sought to monitor for sustained improvement over time to ensure longevity of the implemented measures.

Methods

Context

This was a prospective, single-centre quality improvement study of drug allergy labeling in consecutive children referred to the BCCH Allergy Clinic between December 2016 and December 2019 for assessment of possible drug allergies. All children aged 6 months to 18 years old were included, regardless of medication or allergy type in question. Following patient assessment by a pediatric allergist in the clinic, EMRs of drug allergy status were updated in two systems: BCCH EMR, Cerner, and PharmaNet. The two systems were analyzed to capture both hospital and community care settings. The PharmaNet database was selected because it is used throughout British Columbia by community and hospital pharmacists and at BCCH for medication reconciliation for patients being admitted. The BCCH Research Ethics Board provided a waiver for this study.

During each allergist consult, baseline demographics, including sex and age, were recorded, along with drug allergy status and the suspected medication in question. The proportion of patients deemed allergic versus not allergic was

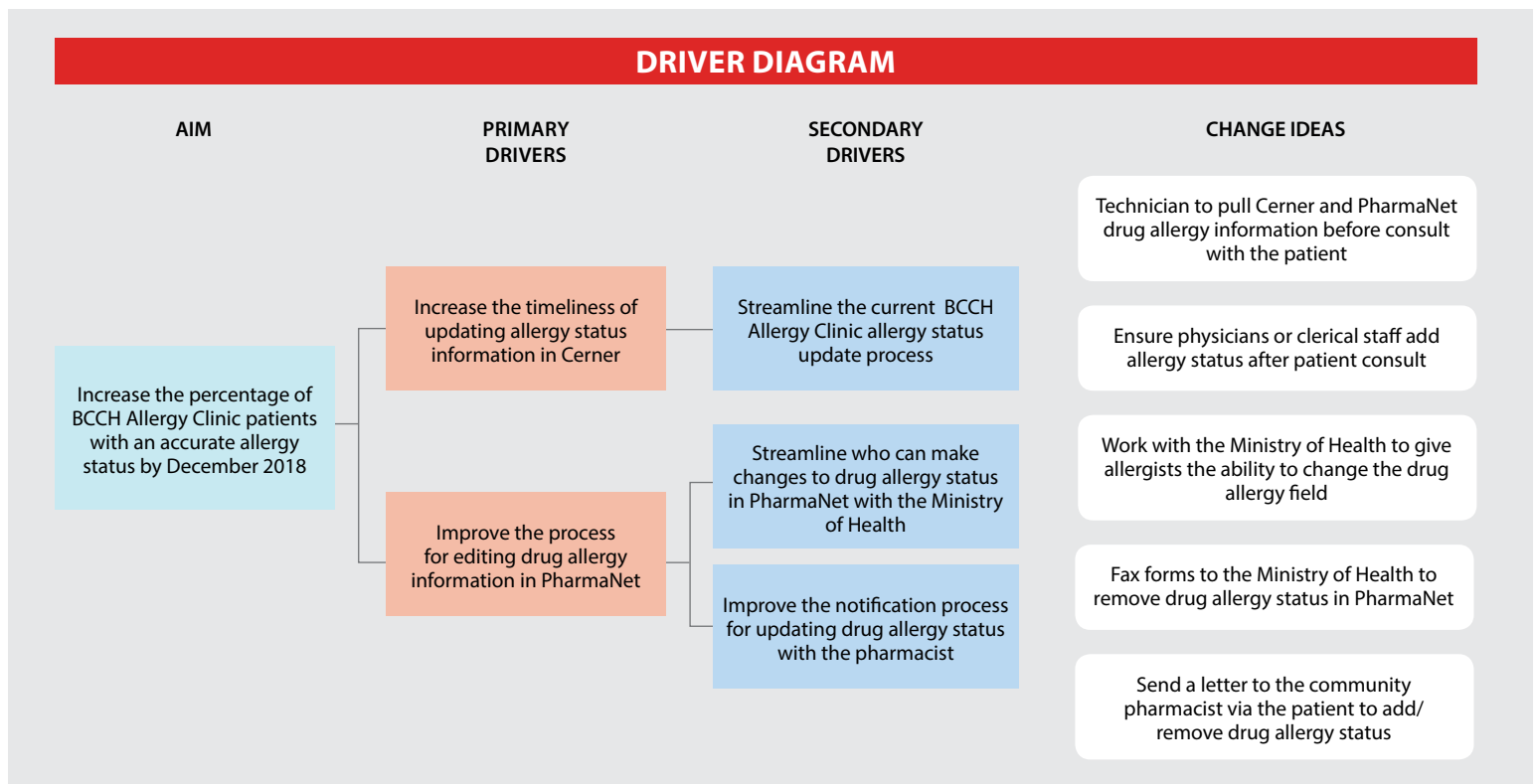


FIGURE 1. Process for improving the accuracy of documenting pediatric drug allergy status in electronic medical record systems.

calculated monthly and quarterly.

A current state analysis was conducted between December 2016 and May 2017 to determine the proportion of patients who had an accurate drug allergy status following assessment by a pediatric allergist. An aim statement was then created: the goal was to increase the percentage of patients who were assessed for a drug allergy at the BCCH Allergy Clinic and had an accurate allergy status on Cerner and PharmaNet within 30 days of being seen to 90% by December 2018. A driver diagram was developed to help guide tests of change in improvement [Figure 1].

Interventions

We initially developed a standardized process in July 2017 in which allergists were responsible for providing handouts to the patient that indicated the result of their assessment, and for updating the patient’s drug allergy status in the two EMR systems. In August 2017, reminder checklists for screening and updating drug allergy status, drug allergy challenge outcome letters, and Ministry of Health request forms to update PharmaNet were added to the patients’ charts. In September

2017, we added a recommendation that allergists begin screening the patient’s EMR for drug allergy status prior to their visit in order to improve efficiency. In November 2017, we changed the process again so that allergy technicians began assisting with screening and recording drug allergy status prior to patient visits. Within 1 month of each test of change intervention, we interviewed clinicians to assess their acceptability of the change, and to inform further tests of change and improvement. A series of iterative data collection, assessment, and improvement cycles was completed over 12 months. Over that period, data were collected monthly. Thereafter, monitoring of drug allergy status in both EMR systems was completed quarterly over an 18-month period.

Analysis

Data were analyzed using time series charts to assess progress and determine if changes resulted in improvements in the accuracy of drug allergy status documentation. P charts were used to assess the percentage of patients who had a correct EMR drug allergy status. Because the number of patients assessed varied over time, and incorrect drug allergy status documentation

occurred infrequently, G charts were used to assess the number of patients seen between cases with an incorrect EMR drug allergy status. Improvements in the accuracy of drug allergy status documentation were assessed using standard rules for control charts: eight or more consecutive points above the mean, six or more consecutive points all trending upward, two of three consecutive points near a control limit, or a single point above the upper control limit.^{7,8}

Results

The study included 270 children who were referred to the BCCH Allergy Clinic for assessment of possible drug allergy: 121 were female; 149 were male. Patients ranged in age from 6 months to 18 years old, with a mean age of 7.4 years. Most consults (90%) were for assessment of beta-lactam allergy. Some patients had multiple potential drug allergies assessed [Table 1].

The current state analysis revealed that drug allergy status (allergic versus not allergic) after formal allergist assessment was correct in between 60% and 90% of the consults by month (mean = 78.4%) in Cerner [Figure 2], and between 45% and 100% (mean = 90.0%) in

TABLE 1. Demographic and drug allergy assessment data.

Sex	N (%)
Male	149 (55)
Female	121 (45)
Total	270 (100)
Age	6 months to 18 years (mean 7.4 years)
Final assessment	
Allergic	41 (15%)
Not allergic	224 (83%)
Unconfirmed	5 (2%)
Total	270 (100%)
Drug in question*	
Beta-lactam	243
Nonsteroidal anti-inflammatory drug (NSAID)	15
Septra	12
Vancomycin	4
Valproic acid	2
Ondansetron	1
Local anesthetic	1
Clonidine	2

*Some patients had multiple potential drug allergies assessed.

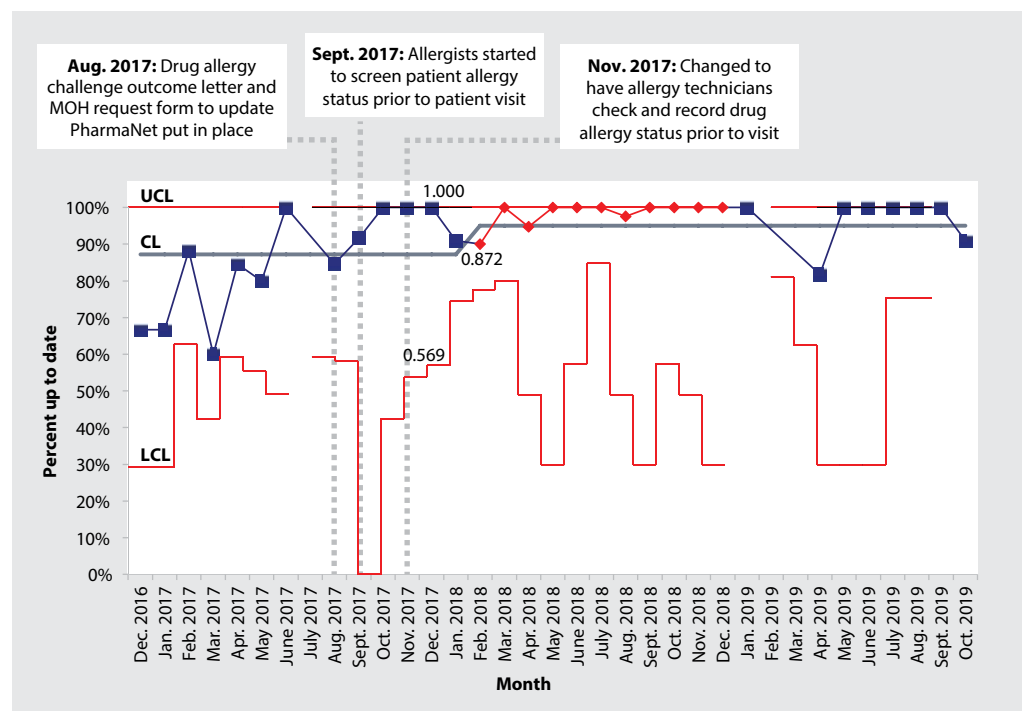


FIGURE 2. Percentage of patients with correct drug allergy status in Cerner (hospital electronic medical record): P chart. Blue lines and squares indicate that there is expected variability (i.e., no improvement); red lines and diamonds indicate there is special cause variation/nonrandom change outlined by Provost and Murray 2011 (UCL = upper control limit; CL = control limit; LCL = lower control limit; MOH = Ministry of Health).

PharmaNet [Figure 3]. The P chart for Cerner indicated that changes to the process accumulated between August and November 2017 and resulted in an improvement in correct drug allergy status, which was largely sustained for the remainder of the study [Figure 2]. The P chart for PharmaNet indicated that changes to the process accumulated between August and November 2017 and initially resulted in an improvement, but it was not sustained through the monitoring period [Figure 3]. Incorrect drug allergy status occurred less frequently over time in Cerner [Figure 4] but not in PharmaNet [Figure 5].

A subanalysis was conducted to compare categories of patients who did not have an up-to-date drug allergy status in the two EMR systems. Prior to the interventions, Cerner had 14 patients who did not have an up-to-date drug allergy status; PharmaNet had 17. After the changes were implemented, Cerner had 8 patients who did not have an up-to-date drug allergy status; PharmaNet had 37 [Table 2].

Discussion

This is the first known study to use quality improvement science to assess and develop changes within an allergy clinic to improve documentation of drug allergy status after assessment by an allergist. By assessing our current state prior to testing changes, we were able to determine what proportion of patients had an accurate record of drug allergy status, which informed our aim statement. Our study highlights internal and external factors that can either facilitate or be barriers to change. A strength of our study is that we were able to monitor drug allergy status for a prolonged period to ensure that the changes implemented were sustainable. We were also able to capture every patient who came through our clinic for drug allergy assessment and review their allergy status, even if their assessment required multiple visits and medication challenges.

We were successful in improving the proportion of accurate drug allergy status within our local hospital EMR Cerner [Figure 2] and the number of patients seen between those identified with inaccurate status [Figure 4].

The community EMR (PharmaNet) documentation was challenging to improve because

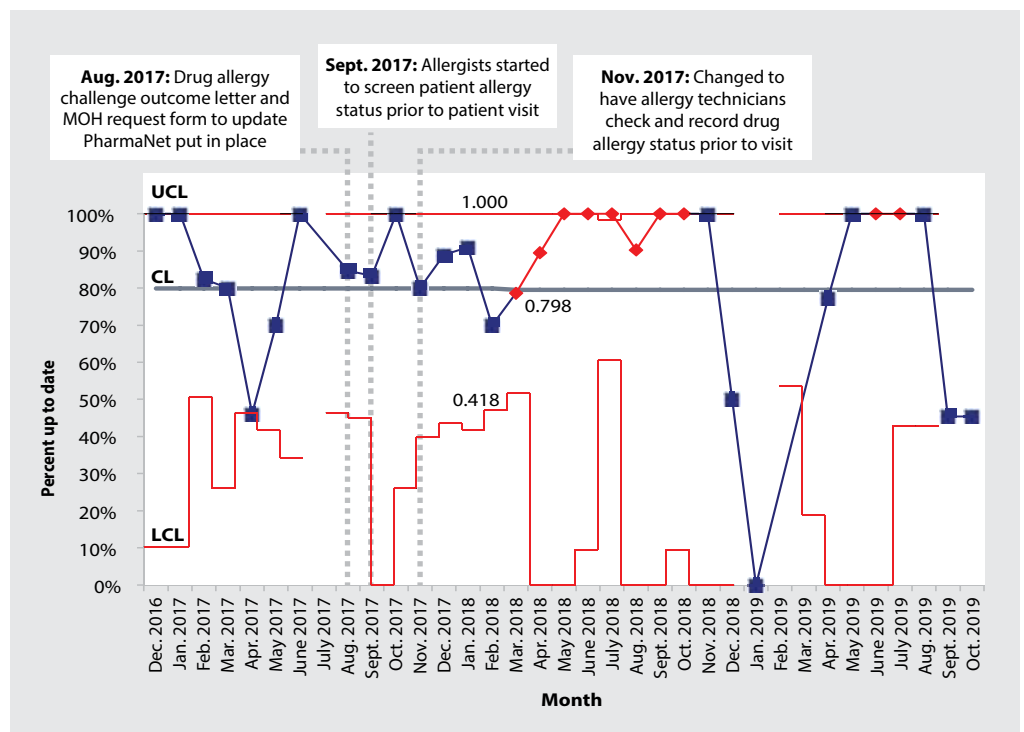


FIGURE 3. Percentage of patients with correct drug allergy status in PharmaNet (community electronic medical record): P chart. Blue lines and squares indicate that there is expected variability (i.e., no improvement); red lines and diamonds indicate there is special cause variation/nonrandom change outlined by Provost and Murray 2011 (UCL = upper control limit; CL = control limit; LCL = lower control limit; MOH = Ministry of Health).

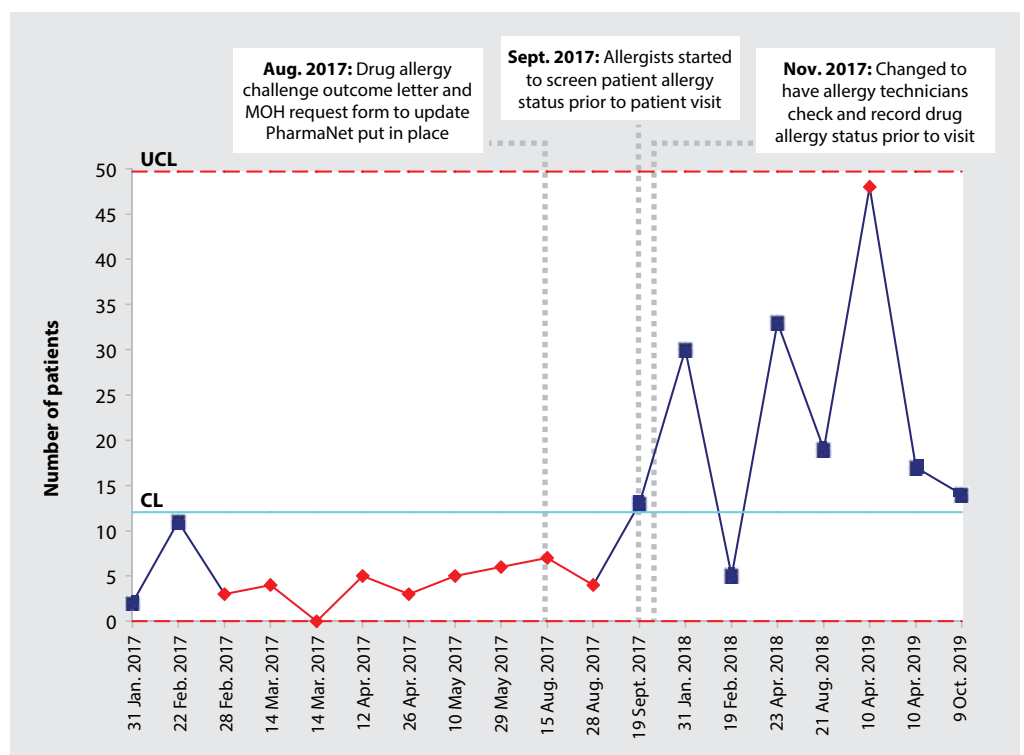


FIGURE 4. Number of patients seen between cases with incorrect drug allergy status in Cerner (hospital electronic medical record): G chart. Blue lines and squares indicate that there is expected variability (i.e., no improvement); red lines and diamonds indicate there is special cause variation/nonrandom change outlined by Provost and Murray 2011 (UCL = upper control limit; CL = control limit; MOH = Ministry of Health).

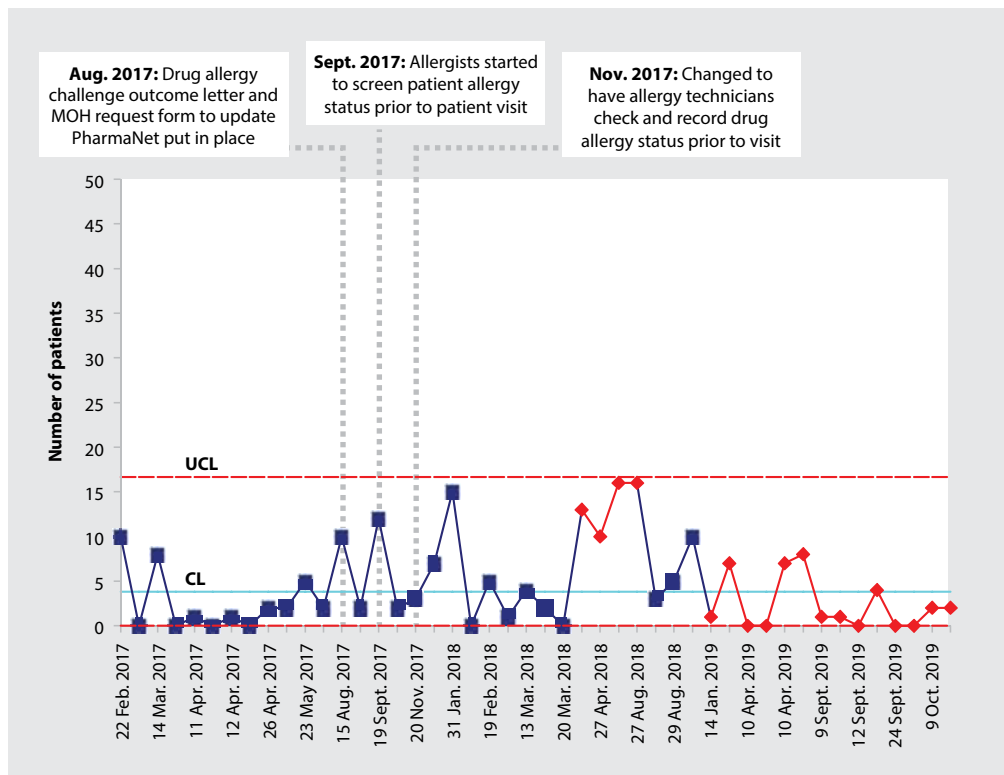


FIGURE 5. Number of patients seen between cases with incorrect drug allergy status in PharmaNet (community electronic medical record): G chart. Blue lines and squares indicate that there is expected variability (i.e., no improvement); red lines and diamonds indicate there is special cause variation/nonrandom change outlined by Provost and Murray 2011 (UCL = upper control limit; CL = control limit; MOH = Ministry of Health).

TABLE 2. Comparison of Cerner and PharmaNet categories of inaccurate allergy status.

	Cerner not up to date*		PharmaNet not up to date*	
	Current state analysis and during tests of change	After changes for improvement	Current state analysis and during tests of change	After changes for improvement
Allergic	7	5	7	30
Not allergic	7	3	7	6
Unconfirmed	0	0	3	1
Total	14	8	17	37

* Not up to date means “not accurate,” as in the wrong label is applied (i.e., allergic when not actually allergic and vice versa), 1-month post allergist consult. The allergist’s opinion is considered the “true” label.

allergists do not have access to it; only pharmacists can add a new drug allergy status to PharmaNet. We do not have a dedicated pharmacist in our clinic to provide direct patient care; thus, we are unable to make these changes. We provided allergy challenge outcome letters to families and had physicians complete the PharmaNet removal of adverse drug reaction form. It was evident from the results in Table 2

that most patients with incorrect drug allergy status in PharmaNet were those who were deemed to be truly allergic after assessment by an allergist. This is particularly concerning from a safety standpoint because patients may receive the same drug again, which puts them at high risk for future adverse drug reactions. The asynchronous nature of multiple EMR systems also remains a challenge for patients who have

This study highlights the importance of multidisciplinary collaboration in accepting new processes, testing changes for improvement, and implementing successful measures.

had their allergy delabeled. Allergists dictate a note to the referring physician as standard of care but cannot guarantee that the label will be removed from the family physician’s EMR. We are still working with the managers of PharmaNet to improve this problem. With the rollout of Clinical & Systems Transformation (CST) to Provincial Health Services Authority hospitals, we will also be advocating for better drug allergy reconciliation.

There are several limitations to this study. The scope was limited to pediatric patients in a local hospital setting; therefore, the logistical details of improvement may not be directly applicable to other centres. We did not assess or monitor drug allergy status in community physicians’ offices, and this remains a gap in the medical literature in general. Finally, we did not assess for return of drug allergy status labels or drug use after patients were assessed by an allergist. This would be valuable information to have in the future to further inform improvements to the process.

Conclusions

This is a unique study on improving the accuracy of drug allergy status documentation in EMRs. It highlights the importance of multidisciplinary collaboration in accepting new processes, testing changes for improvement, and implementing successful measures. Monitoring for sustained improvement is important, even after the changes have been implemented. Challenges in improving accuracy of drug allergy status documentation remain when external factors cannot be easily monitored or changed widely, such as community EMRs, especially when there is no synchronization of

systems. More work needs to be done to ensure that the results of drug allergy assessments are documented in a centralized fashion and are clearly communicated so they are accurately retained in EMRs over the long term. Family physicians and pediatricians can take part in this improvement process by ensuring that drug allergy status is correctly documented in their own EMR, and by encouraging patients to alert their community pharmacist of known or delabeled drug allergies. ■

Acknowledgments

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More work needs to be done to ensure that the results of drug allergy assessments are documented in a centralized fashion and are clearly communicated so they are accurately retained in EMRs over the long term.

vincial Health Services Authority Physician Quality Improvement Program and the Doctors of BC Specialist Services Committee.

Competing interests

None declared.

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Phantom limb pain: A brief discussion of treatment considerations including management of symptomatic neuromas

From 2010 to 2019, WorkSafeBC saw 120 injured workers requiring an upper or lower limb amputation. Thirty-nine percent of those workers subsequently developed phantom limb pain (PLP).

Having an amputation changes many aspects of life: mobility, balance, endurance, dexterity, self-confidence, mood, vocation, recreation, and more. In addition, most individuals with amputations experience post-amputation pain that may include PLP, phantom limb sensation, or residual limb pain.

PLP is a well-recognized condition that affects most amputees at some point after limb loss. Pain is perceived as arising from the limb that is no longer there. It is often described as electrical, shooting, stabbing, burning, cramping, or intense pins and needles. Phantom limb sensation is the non-noxious perception that the amputated limb/digit is still present. Residual limb pain may result from (1) extrinsic sources such as undue pressure, friction, or shear from the use of a prosthesis or (2) intrinsic etiologies such as vascular insufficiency, local infection, muscle cramping, tendinopathies, or bursitis.

PLP is not solely a result of “centralized pain”: there are peripheral, spinal, and supraspinal modulators. One possible peripheral pain source may be a transected nerve that forms a symptomatic neuroma, which then refers pain to the phantom limb. Although every cut nerve will form a terminal neuroma, not all terminal

neuromas become symptomatic. The incidence of symptomatic neuroma presentation is variably reported in the literature and depends on the site of amputation; therefore, the clinical presentation is what drives the diagnostic consideration. Accurate identification of a symptomatic neuroma may lead to more definitive management of presenting PLP.

Taking a history of phantom pain should include the location pattern of the phantom symptoms. If the distribution of PLP is suggestive of a peripheral nerve territory, evaluate the patient for hypersensitivity along the expected course of the identified nerve. If mechanical stimulation (tapping, applying pressure) elicits the typical experience of the bothersome PLP symptoms, there may be a role for further diagnostic and therapeutic actions. Image-guided local anesthetic (+/- corticosteroid) diagnostic blocks of the specific peripheral nerves in question help determine if further focal nerve intervention may reduce the severity of PLP symptoms.

Since the early 2000s, newer peripheral nerve surgical techniques have emerged to manage symptomatic neuromas. More recently, these procedures are starting to be done at the time of the initial amputation surgery with the goal of preventing neuroma formation from happening at all. Targeted muscle reinnervation surgery is a technique where the transected nerve is transferred (coapted) into a recipient motor nerve within the amputated residual limb. The nerve then “has a place to go” as it reinnervates the recipient muscle. Regenerative peripheral nerve interface surgery uses nonvascularized

pieces of muscle wrapped around the transected nerve ending with the goal of having the nerve fibres grow into, or innervate, the muscle graft. Clinical observation and reports from the literature suggest that targeted muscle reinnervation may be the preferred choice for larger mixed (sensory-motor) nerves where an appropriate recipient muscle can be identified in the local area of the neurectomy.

The intensity, duration, and provoking/relieving factors of PLP vary among individuals. Taking the history and examining the patient through the lens of “looking for root cause” helps guide treatment. Effective pain management plans can be challenging to discover but may consist of nonpharmacologic strategies, prosthetic adjustments, topical/oral medications, injections, or surgery.

In BC, there are several centres where treatments and procedures are being evaluated and implemented. The goal of care is optimization of pain management, function, and quality of life. The therapeutic approach often requires multidisciplinary input from various specialties that may include physiatry, plastic surgery, diagnostic/interventional radiology, anesthesiology, prosthetists, physiotherapy, occupational therapy, and psychology. Consider referring to an amputee clinic or a physiatrist in your community if assistance is needed. ■

—Rhonda Willms, MD

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

Impact of COVID-19 on postgraduate medical education in British Columbia

Residency training in BC has required significant adaptation during COVID-19, particularly in the areas of education, technology, examinations, occupational health and safety, and wellness.

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Early public health measures in BC received international recognition for their relative success in managing the COVID-19 pandemic.¹ As part of the pandemic response, resident physicians have been recognized as essential front-line workers.² However, the unique position of residents as both physicians providing essential care and trainees requiring continuing medical education necessitates special consideration of the impact of COVID-19 on postgraduate medical education.^{3,4}

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This article has been peer reviewed.

Resident Doctors of BC (RDBC) is a professional association that represents over 1300 resident doctors provincially on issues relating to resident education, wellness, and labor relations.⁵ RDDB collaborated with key stakeholders, including the BC Ministry of Health, provincial health authorities, local hospitals, and the University of British Columbia, throughout the pandemic to advocate for residents' needs. As a key interface between individual residents and the health system at large, RDDB is uniquely positioned to comment on provincial resident issues. Over the past year, five themes summarize the impact of COVID-19 on residency training in BC: education, technology, examinations, occupational health and safety, and wellness. On behalf of the RDDB Board of Directors, we aim, in this article, to analyze these issues with the goal of guiding future emergency preparedness and ongoing quality improvement of residency education in the context of our rapidly evolving health care landscape.

Education

Residency, or postgraduate medical education, is a multifaceted effort to train an adult learner to become an independent physician. The overall process varies as each residency training program is uniquely tailored to specialty-specific competencies. However, in general, residency involves on-the-job learning through patient interactions within set time frames or rotations,

didactic teaching on clinical cases, and journal clubs to keep abreast of the latest scientific evidence, all of which were significantly affected by COVID-19.

During the first wave of the pandemic in BC, numerous outpatient and private clinics were closed, elective surgical procedures were canceled, out-of-province electives were suspended, and the number of non-COVID-related visits to hospitals declined sharply.⁶ Additionally, residents in numerous training programs were redeployed to clinical areas of need including emergency medicine, acute inpatient wards, and critical care.⁷ While some changes reverted within months, such as the resumption of elective surgeries, other training opportunities, such as out-of-province electives, remained canceled over a year later.^{8,9}

The disruption of traditional clinical experiences interfered with residents' ability to achieve their educational goals. For those just beginning residency, their transition was imposed by rapidly shifting pandemic-associated policies, rules, and expectations. For residents nearing critical milestones in their training, such as subspecialty applications, electives for employment prospects, and graduation, this situation posed unprecedented challenges.

Residency training programs, hospitals, and Canadian medical education at large recognized these issues, and many positive solutions emerged. The pandemic occurred at a time when many programs were already shifting

toward competency-based medical education (CBME), in which training focuses on attaining skill-based milestones rather than traditional time-based requirements. During COVID-19, many training programs embraced the spirit of CBME, espousing flexibility by modifying existing policies to compensate for missed training time because of, for example, redeployment or illness.¹⁰ In addition, many educational opportunities were transitioned to effective virtual formats, as described below. Hence, although many residents experienced the loss of valued learning opportunities, educational adaptations that emerged from the pandemic may continue to benefit future generations of trainees.

Technology

Social distancing measures implemented during the pandemic necessitated adoption of technological solutions to minimize interruptions to patient care and resident education. Video-based teleconferencing emerged as the most-used platform, with many institutions adopting new technology services or expanding their existing infrastructure. Because of its provincially distributed medical education program, UBC was well positioned to leverage its established video teleconferencing infrastructure to support a smooth transition to online learning during the pandemic.¹¹⁻¹³

Other successes in implementing new technologies stemmed from adaptability and responsiveness. Traditional in-person patient care and teaching transitioned to well-received virtual solutions, such as three-way teleconferencing between patient, staff physician, and resident physician, as well as virtual flipped classrooms or simulation teaching.^{3,14,15} Continuous quality improvement processes were implemented to ensure the use of novel technologies underwent iterative improvement.¹¹

Commonly described challenges included a need for faculty training on how to teach or provide patient care virtually, and “Zoom fatigue” or exhaustion associated with overusing virtual platforms. Some residents also described that their virtual curriculum was inundated with online resources without appropriate curation to guide their learning.^{13,14}

Overall, the benefits of virtual technologies extended beyond the preservation of patient

care and learner education. With the accessibility and convenience of virtual conferencing, residency programs noted increased engagement and attendance with teaching, reduced barriers to checking in with learners on their wellness, and greater ease in coordinating projects.^{3,15} As a result, many departments noted record attendance in virtual noon rounds, others capitalized on recruiting expert lecturers outside their geographic location, and some clinics embracing this new technology were able to function more efficiently with fewer no-shows.

Examinations

To become an independent medical practitioner in BC, residents must successfully complete several licensing examinations. For Canadian trainees, until the disruption of the pandemic, these included the Medical Council of Canada Qualifying Examination (MCCQE) consisting of a written knowledge test (Part I), typically completed immediately prior to residency, and a practical oral exam (Part II), typically completed during residency.¹⁶ These were then followed by either the Royal College of Physicians and Surgeons of Canada or College of Family Physicians of Canada examinations, which typically consist of both written and oral components.

Due to COVID-19, administration of these exams necessitated finding a delicate balance between maintaining the safety of examinees and the public, while also accomplishing their traditional credentialing role. Early in the pandemic, many exams in spring 2020 were postponed or outright canceled until virtual alternatives were established.¹⁷⁻¹⁹ However, over a year later, repeated postponements and cancellations of the MCCQE Part II continued to occur due to a variety of logistical and technical challenges.^{20,21} In response to this, numerous provincial licensing bodies, including those in British Columbia, Ontario, and Nova Scotia, temporarily granted provisional licences for independent practice without MCCQE certification. This contributed to a national reconsideration of the need for this exam, especially in the context of the broader movement toward competency-based medical education, in which residents’ clinical competence is iteratively evaluated rather than judged

on standalone exams, in addition to advocacy from national organizations questioning the value of this particular examination.²¹ Ultimately, the Medical Council of Canada decided to cease delivering the MCCQE Part II in response to recommendations from national stakeholders,²² underscoring how COVID-19 magnified a broader re-examination of high-stakes physician assessment and examinations in Canada.²³

Occupational health and safety

Many health care workers developed an increased appreciation for occupational health and safety issues during COVID-19, from the need for personal protective equipment to the importance of airborne isolation protocols. However, the increased focus on occupational health and safety also revealed gaps in the coordination of these protocols for resident physicians.

Residents have a unique position as health care workers given their constantly evolving scope and settings of practice. For example, their employment is temporary, lasting anywhere from 2 to 8 years; they are geographically distributed, often working in multiple hospitals and health authorities; and they work for multiple departments, rotating between services in 4-week cycles. Although residents have multiple clinical preceptors, they do not have a single manager as in traditional hospital reporting structures. This means residents may be excluded from typical channels of communication targeted toward other hospital-based staff, such as departmental emails, as was the case for early memos about COVID-19 vaccination scheduling. These interrelated factors make it challenging to administer appropriate oversight and education of occupational health and safety matters for resident physicians.

For example, contact tracing for residents who were potentially exposed to COVID-19 was a challenge in the early phase of the pandemic. Exposed residents were often contacted through informal, patchwork channels outside of structured hospital and public health systems, relying on colleagues or preceptors to recall their recent contacts in the event of an outbreak. To address this issue, RDBC collaborated with UBC Postgraduate Medical Education and provincial health authorities to develop a database

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that could track residents across the province. This allowed residents to be identified by their site and rotation across health authorities and facilitated timely communication to potentially exposed residents in the event of COVID-19 outbreaks.

Overall, the pandemic offered valuable insight into how future occupational health and safety preparedness for resident physicians can be enhanced. Since 2018, RDBC has incorporated mandatory occupational health and safety training for all residents during their first-year orientation. Future avenues for improvement include collaborating with health authorities and hospitals to offer additional training and developing supports to help residents appropriately

navigate hospital communication and reporting structures (e.g., in the event of work-related injuries).

Wellness

The negative impact of COVID-19 on resident physician wellness relates closely to the unique training demographic in BC. In contrast to about 25% of residents in other provinces, over 45% of BC's incoming residents originate from outside the province. As support from friends and family plays a critical role in maintaining wellness, residents new to BC and without pre-established social networks are predisposed to social isolation. Residents have expressed a reduced sense of

community during the pandemic as well as increased difficulty integrating into their new training programs.

Prior to COVID-19, social events for residents were mostly in person, with occasional online offerings. Larger interspecialty events were concentrated in Vancouver and, therefore, inaccessible to distributed residents in other parts of the province. The gaps in this support system were highlighted by COVID-19, in which most events were transitioned to an online format. Virtual gatherings, including at-home cooking or fitness classes, created an opportunity to reach residents in the entirety of the province, including those in smaller training programs.

Accessible counseling is another critical pillar of resident wellness. In response to COVID-19, UBC has enhanced these supports with the addition of programs such as peer-to-peer support networks and weekly virtual wellness rounds. Furthermore, more counselors are now offering telephone and virtual appointments to increase province-wide access to these services.

While social events and counseling aim to enhance the resident experience, it is also important to consider the root causes of why resident physicians become unwell. Resident wellness is intrinsically tied to their overall training experience, such as their daily clinical encounters and licensing exams. Therefore, addressing the underlying, systemic causes of why residents experience burnout, depression, and wellness challenges is critical to creating a safe and positive physician training environment in BC.²⁴

Conclusion

The traditions of residency training in BC have required significant adaptation during COVID-19, particularly in the areas of education, technology, examinations, occupational health and safety, and wellness. However, although the pandemic was disruptive to postgraduate education in many ways, it also served as a catalyst for positive change, with many innovations likely to persist in the years to come [Table]. However, many advances in these areas remain in their infancy. We hope that this article serves as a starting point for ongoing discussion

TABLE. Residency training in BC: Barriers to and enablers of effective response to COVID-19.

	Barriers	Enablers
Education	<ul style="list-style-type: none"> Relatively rigid residency scheduling for core rotations and electives. Residents' varying roles in outpatient and private clinics without virtual options. 	<ul style="list-style-type: none"> Training program flexibility in adapting to unforeseen circumstances. Integration of residents in the implementation of and transition to virtual health care delivery. Continuous quality improvement processes.
Technology	<ul style="list-style-type: none"> Lack of training and established processes for educators in transitioning to virtual mediums. 	<ul style="list-style-type: none"> Pre-existing provincial infrastructure for teleconferencing due to distributed teaching sites across BC. Innovative and adaptable faculty with institutional support to adopt new technologies.
Examinations	<ul style="list-style-type: none"> Traditional delivery of in-person examinations. Reliance on high-stakes examinations to assess readiness for independent practice. 	<ul style="list-style-type: none"> Development of virtual alternatives for credentialing examinations. Exploration of how competency-based medical education and traditional examinations may complement each other for licensure. Flexibility of licensing bodies to adapt requirements in response to evolving situations.
Occupational health and safety	<ul style="list-style-type: none"> Lack of established infrastructure and processes to manage resident-specific occupational health and safety issues. Dual role of residents as both employees and learners working in multiple departments, hospitals, and health authorities across BC. 	<ul style="list-style-type: none"> Mandatory occupational health and safety training in first year of residency. Collaboration with stakeholders to create occupational health and safety reporting structures that operate across health authorities and residency training programs. Informal but nimble communication channels between resident physicians.
Wellness	<ul style="list-style-type: none"> Reliance on traditional in-person wellness and social events. Pre-existing levels of resident burnout. Social silos between residents in distributed sites and different training programs. 	<ul style="list-style-type: none"> Ongoing investment into institutional support systems for resident wellness. Improving the overall training experience to address the underlying causes of why residents are unwell. Responsive residency groups and advocacy organizations.

and collaboration on how to support residency education and encourage excellence in clinical teaching in BC. ■

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Shaping the future of virtual care in BC

Since the start of the pandemic, the number of virtual health care visits across the province has catapulted from approximately 700 000 to over 17 million as of June 2021.¹ BC doctors have quickly adapted to practising differently and embraced virtual care as an alternate way for patients to access care.

Virtual care uses information and communication technology to deliver care between a patient and a provider, or to communicate about the care of a patient between providers. This can include video, telephone, text, and email, and may be synchronous or asynchronous. It is critical for patients and providers to foster a culture of acceptance and understanding that virtual care is part of the journey, not the destination. To ensure quality care remains equitable and accessible, virtual care recognizes:

- The importance of comprehensive, longitudinal, relationship-based care in all care settings and services, with an aim to establish relational continuity.
- Integrated care that is coordinated between providers and environments.
- Culturally safe and humble care.
- Equity as a fundamental principle.
- The value of collecting and applying quality data to create a learning system.

The following are a few examples of doctors using technology to improve access to care.

Acute care

A physician-led team of providers at Royal Columbian Hospital in New Westminster introduced a virtual communication system for the inpatient ward during the COVID-19 pandemic. Five new Bluetooth-enabled iPads use Zoom and FaceTime to facilitate video

communication between patients in their rooms and their providers, and enable providers to remotely monitor patient vitals and document patient charts; patients were also able to communicate more with their loved ones.

In partnership with the Fraser Health Authority and the Royal Columbian Hospital Foundation, the project team acquired the iPads and implemented processes to develop patient education materials and to request support connecting with vendors about device and data options. The increased use of virtual technology mitigated exposure to COVID-19, supported standardized advanced care planning, and reduced patient isolation.

Critical care

Rural and remote practitioners can feel isolated when providing critical care to patients in the Kootenay Boundary region, which is composed of 12 small communities that resource one ICU in Trail. To support these physicians with their communication with specialists, the Kootenay Boundary Division of Family Practice developed a virtual ICU that provides timely access to remote consultations—a first in the province. Emergency room physicians link with the ICU team in Trail using videoconferencing software that connects to their existing mobile video carts. For patients, this has resulted in early access to specialized care and avoidance of potential procedures and travel time, as well as cost savings to the regional ICU. This has also supported recruitment and retention and improved confidence for rural ER physicians.² The project team is working with health care partners to expand this model beyond critical care.

Primary care

Having provided only in-person care prior to

the COVID-19 pandemic, a family practice in Qualicum Beach responded to the changing needs quickly by adopting virtual care services to continue to deliver care to its patients. A family physician started by providing phone visits and soon after added video visits by enabling the capability within his EMR. The physician enhanced his skills and knowledge by participating in a three-part learning series hosted by the Central Island Division of Family Practice and undertook practice improvement projects with the support of a regional practice support

Virtual care is part of the journey, not the destination.

coach. The clinic now provides about half of its patient visits virtually, and reports that about 5% to 10% of virtual visits are rescheduled for an in-person visit based on the doctor's judgment during the virtual visit. Elderly patients have expressed that they value the virtual visits for transactional care such as prescription renewals.

These changes increased the physician's self-reported productivity and connection with specialist physicians, and the clinic increased its capacity by 10% and saved about 5000 sheets of paper per month by switching to an e-faxing platform.

Moving forward

Using technology in health care has its benefits, such as improved patient and provider experiences, consistency in process and care delivery, connections between clinicians spanning geographical and service areas, and improved access to comprehensive clinical care info. It also comes with challenges like the integration of networks, providers, and information. Key to blending virtual and in-person patient visits in an integrated system of care is securing and sharing patient information among health care providers who span hospitals and private offices across all health regions.

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

Resources for diverse patient care

The JCCs continue to work with Doctors of BC and the BC government to ensure alignment with their digital health strategies. Find a list of virtual care resources for physicians and clinics at www.CollaborateOnHealthBC.ca/resources/virtual-care. ■

—Jiwei Li, MD

—Anthon Meyer, MD

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Globally, there has been an increase in awareness of the need to acknowledge and respect the diversity of humankind. The same has been happening in the field of medicine, with the realization that not only does clinical care need to be tailored to the patient, but also how that care is delivered must be adapted. This need has been identified especially in the care of people of diverse genders and sexualities.

Optimal care for these patients can be influenced by many factors, including differences in cancer risks, respectful and appropriate acknowledgment of individuals' gender and sexuality, differences in treatment for youth and adults, and clarification of what treatment can be provided in primary care.

The number of resources available to support the care of patients of diverse genders and sexualities is increasing, although finding resources relevant to your location and

specific patient can still be tricky. Librarians at the College have created a curated list of guidelines, reviews, books, and book chapters to support physicians in BC in providing knowledgeable care for these patients (www.cpsbc.ca/files/pdf/Library-Sexual-and-Gen-Diversity-Resources.pdf). The content ranges from specific care guidelines to recommendations for office procedures, and contains information aimed at both primary care physicians and specialists.

Information about providing care in BC is also available from many health authorities. A notable example is Trans Care BC from the Provincial Health Care Authority (www.phsa.ca/transcarebc/health-professionals). The site offers information about the resources, guidelines, and procedures for the care of trans patients for both primary care physicians and specialists.

Looking to expand your knowledge beyond the resources suggested here? Request a literature search from the College Library at www.cpsbc.ca/registrants/library/make-request. ■

—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.

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Re-embracing physical activity after COVID-19: What is the physician's role?

Globally, populations have experienced increased sedentary behavior, decreased physical activity, and increased social isolation as a result of COVID-19.¹ Canada is no exception. Canadian adults have been found to use more sedentary activities and fewer physical activities to address the increased stress they are experiencing due to the pandemic.²

The detrimental impact of these behavior changes on general mental and physical health is clear.^{1,3} There is also evidence that physical inactivity is one of the strongest predictors of severe disease from COVID-19.⁴ This highlights the important role physical activity plays in overall well-being and disease prevention and mitigation.

New guidelines from the World Health Organization for physical activity and sedentary behavior were released in 2020. They provide evidence-based recommendations across the life course and for specific populations, including those living with chronic conditions or disability and pregnant or postpartum women.⁵ The Canadian 24-Hour Movement Guidelines also provide specific recommendations for all age groups in relation to limiting sedentary behavior.⁶

Given the health benefits of physical activity and the increase in sedentary behavior among Canadians due to COVID-19, it behooves us to consider our roles in reversing unhealthy behaviors as we emerge from the pandemic. We need lenses of inclusion, diversity, and cultural sensitivity, recognizing that there are significant

individual barriers to returning to normal activities and re-engaging with healthy behaviors.

During the pandemic, most people have had less contact with their primary care providers than normal, and contact has often been via telemedicine. Physicians have an opportunity to help their patients emerge from the pandemic with goals and incentives to reverse unhealthy pandemic trends and to initiate new, healthy habits for the long term.

Below are some suggested approaches for encouraging physical activity during consultations with your patients:

- Introduce the topic from a positive and preventive perspective that keeps the patient at the centre of the conversation.
- Ensure your patients are aware of the risks of physical inactivity and sedentary behavior and the benefits of physical activity.
- Collaborate with patients in developing goals, and encourage them from a realistic perspective that recognizes the patient's barriers and local context. Ask the patient what they think they can do to increase their activity levels and decrease the amount of time they spend sitting. Note that any increase in physical activity will be beneficial. Start small and celebrate successes.
- Provide information for local opportunities and online resources. Consider using Doctors of BC info sheets with current physical activity resources and programs for children, youth, and older adults.^{7,8}
- Consider using the physical activity record in the vital signs section of your EMR to monitor progress and follow up.
- Help your patients use step counters. Many people are not aware how sedentary they are until they actually measure their steps. This provides a tangible way to record progress and many people have mobile phones that

can measure and record steps. Decreasing sedentary behavior can be approached from the perspective of limiting sitting.

- For older adults who have been housebound through the pandemic, consider doing a frailty screen or assessment.

Physicians can play a crucial role in promoting a societal return to physical activity, and that starts with engaging with our patients. To counter the long-term effects of pandemic-induced inactivity, we need everyone to come to the table. ■

—Anne Pousette, MD, MPH

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

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Laboratory Services Act: Recovery of lab-test costs

This article originally appeared in the June 2016 issue of the BCMJ. As this subject continues to pose a problem, the Patterns of Practice Committee decided to rerun the article.

In the July/August issue of the *BCMJ* we described how physicians may be affected by the Laboratory Services Act. The Act reinforces the provision of recovering lab-test costs from the referring practitioner (Section 54). This means that the Ministry of Health is able to recover funds from doctors who order tests that are not associated with an MSP benefit but are billed to MSP. The ministry can recover these funds by withholding amounts from future remittances. This month we're providing examples of circumstances under which recovery for lab-test costs may be sought by the ministry.

While most physicians will not be impacted, those practising wellness or lifestyle medicine may want to be sure that they are ordering and billing lab tests in keeping with the Act.

Preamble C.1 of the *Doctors of BC Guide to Fees* states:

“Benefits” under the Act are limited to services which are medically required for the diagnosis and/or treatment of a patient, which

are not excluded by legislation or regulation, and which are rendered personally by medical practitioners or by others delegated to perform them in accordance with the Commission's policies on delegated services.

Services requested or required by a “third party” for other than medical requirements are not insured under MSP. Services such as consultations, laboratory investigations, anesthesiology, surgical assistance, etc., rendered solely in association with other services which are not benefits, also are not considered benefits under MSP, except in special circumstances as approved by the Medical Services Commission (e.g., Dental Anaesthesia Policy).

The following examples describe situations in which the laboratory service would *not* be considered a benefit:

- A physician performs a pre-employment examination for a recruit from the local fire department. A CBC, lipid profile, and liver function tests are required as part of the employer's pre-employment package.
- Ms Jones brings a list of tests that her naturopath requested of her physician and asks the physician to order the tests.
- A physician is performing a cosmetic procedure on a patient who is on anticoagulants and orders a CBC and INR.
- Mr Smith, age 35, goes to see his physician for an annual physical with no medical indication. The physician bills MSP for the complete exam and orders a CBC, BUN, creatinine, TSH, calcium, and liver function tests. In this case, the costs of both the visit and the lab tests could be recovered from the ordering physician.



- A physician in a wellness clinic (i.e., a facility devoted to the promotion of healthy living and the prevention of illness and disease) faxes a lab requisition to the lab prior to seeing a patient. The following tests are ordered:
- Male patient: CBC, ferritin, Macro +/- micro urine, fbs, A1C, lipid profile, TSH +/- T4, Na, K, ALT, GGT, eGFR, PSA (the PSA is patient pay), LH, FSH, estradiol, total testosterone, DHEAS, hs-CRP, anti-TPO, homocysteine, IGF-1.
- Female patient: CBC, ferritin, Macro +/- micro urine, fbs, A1C, lipid profile, TSH +/- T4, Na, K, ALT, GGT, eGFR, LH, FSH, prolactin, estrogen, progesterone, testosterone, DHEAS, hs-CRP, anti-TPO, homocysteine, IGF-1.

Previously, in order to recover funds from the ordering physician, the Medical Services Commission would have to prove that the tests ordered were not medically necessary. Under the Laboratory Services Act, it may be up to the physician to prove the tests ordered *were* medically necessary. ■

—Janet Evans, MD, CFPC, FCFP
Chair, Patterns of Practice Committee

This article is the opinion of the Patterns of Practice Committee and has not been peer reviewed by the BCMJ Editorial Board. For further information contact Tara Hamilton, audit and billing advisor, economics, advocacy and negotiations, at 604 638-6058 or thamilton@doctorsofbc.ca.

Obituaries

We welcome original tributes of less than 500 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 Alexander Letham Black
1946–2021

With deep sadness, we announce the passing of Dr Alex Black. Alex made the unforeseen decision to end his life. Though his choice is difficult to understand, we ask you to think of him with compassion and respect.

Alex graduated from Glasgow University in 1970 and practised as a GP in Scotland for 10 years before moving to Vanderhoof, BC, in 1981. He faithfully served as a family practitioner in that community for 28 years and dedicated himself to meeting the health care needs of all those he served. Alex was a mentor to a generation of doctors who passed through Vanderhoof and was a role model for many who continue to serve in rural medicine in BC.

In 1997, recognizing the demands placed on physicians in rural communities, Alex was instrumental in the development of the Northern Rural Doctors Group. This group of initially 22 physicians challenged the health authority and Ministry of Health to solve the longstanding difficulties faced by rural and remote communities and physicians with recruitment and retention. He was an unwavering leader, and after 6 months of hardship, an agreement was reached that resulted in on-call pay and improved working conditions. This later led to MOCAP and the formation of the Joint Standing Committee

on Rural Issues. Rural medicine's needs were placed firmly on the map thanks to Alex's vision and determination.

Alex went on to serve on the then BCMA Board, where he ably represented his northern constituents and was proud to be from Vanderhoof, "the geographic centre of BC." He was forthright and pragmatic, having the ability to guide debate to a timely and wise conclusion.

Alex was awarded the Doctors of BC Silver Medal of Service in 2009.

Alex found solace at his cabin on Fraser Lake, where he enjoyed fishing, outdoor curling, and an occasional good Scotch. He entertained his friends and family with a dry sense of humor and always had a twinkle in his eye. Time spent with Alex was time well spent.

While we will never know the reasons behind his last decision, we must rejoice in his life and remember the good times. He will be sadly missed but never forgotten by all who knew this dedicated physician.

Alex joins his parents, Francis and Agnes; his first wife, May; his brothers, John and Bobby; and his brother-in-law, Will F. He is survived by his wife, Petra; his son, David; his daughter-in-law, Donna; his grandson, Ryan; his sisters, Nan and Christine; Christine's husband, Will; and his sister-in-law, Ann. He also leaves behind many nieces, nephews, extended family, and friends in Scotland, Austria, and Canada.

We encourage you to look out for each other and remind everyone that the Physician Health Program of the Doctors of BC provides supportive counseling and interventional services to physicians and their families in times of need. You can contact the program at 604 398-4300.

—Alan Gow, MBChB

Osoyoos

—Bill Cavers, MD
Victoria



Dr Heather Fay
1948–2020

Heather peacefully passed away in her home in Vancouver on 4 November 2020 after having struggled with an aggressive form of ALS (Lou Gehrig's disease) for the past 2 years. Beauty, grace, and intelligence are words that come to mind when you think of Heather, and the dignity and kindness with which she lived will long survive her. Helping others, especially the downtrodden or animals in distress, was her passion.

After graduating in medicine from the University of Aberdeen in 1973 and doing some postgraduate training there, she practised medicine in the Middle East, learned Arabic, and delighted in bringing the Scottish egalitarian attitude to a very hierarchical system. A passionate linguist, she spoke five languages, including impeccable French, and was also able to get by in multiple other languages. Prior to a vacation she delighted in studying the local language, her feeling being that in order to understand a country or a people you had to understand the language.

While she was a medical student, she competed successfully as a downhill ski racer, became the British Universities champion, and was selected to the UK team to compete in the World Student Games. She also loved sailing,

and in 1976 she set sail from Marseille, France, to spend 2 years circumnavigating the globe in a 29-foot sailboat. Heather loved hosting events, and her renowned dinner parties gathered a diverse and fascinating group of friends. A party held by Heather was sure to be fun, often ending up at the bar with a sing-along.

Heather was a champion and pioneer of integrated medicine, which she became interested in through her own life experiences. She worked as a family physician for 25 years and in her private therapeutic practice for 2 decades, training in complementary fields including traditional Chinese medicine, clinical hypnosis, and medical acupuncture. She was a leader in clinical hypnosis in British Columbia, and with her “big brother” Dr Lee Pulos pioneered the introduction of energy psychology techniques to BC. Heather was a powerful healer who cared deeply for her patients, helping many find a way through serious health and life challenges. Her personal experience with cancer equipped her to coach and support patients going through the cancer experience and beyond, and this was one of her greatest joys.

True to her spirit, Heather viewed her diagnosis with ALS as another challenge to be faced with everything she had. Her optimism and courage during this gruelling time was inspiring, and she far surpassed her specialist predictions. Heather lived bravely and true to herself until the end of her life. Her pioneering professional work, indomitable spirit, and beliefs in integrative medicine and healing will live on in those she worked with, trained, and all of us who were lucky enough to know her.

Heather is survived by Dr Patrick Fay, her loving husband of 42 years; brother, Alan (Jill) in France; and beloved niece and nephew, Dr Julie (Ewan) and David (Louise) in the UK and Geneva respectively.

We are deeply grateful to the amazing caregivers, friends, and professionals for their extraordinary and selfless commitment to Heather’s care and well-being, which made home care possible. You know who you are, and we will never forget you.

Due to COVID-19 restrictions the wake/celebration party will happen at a later date.

—Patrick Fay, MD
Vancouver



Dr John Patrick McConkey 1945–2021

With the death of Dr Pat McConkey on 10 June 2021, Canada said goodbye to one of the shy, quiet giants of orthopaedics. He was 76.

A clinical professor at the University of British Columbia, Pat was a member of the Department of Orthopaedic Surgery since 1977. He completed his MD at UBC in 1969 with an internship at McGill. He completed his residency at UBC in 1975. He spent 1 year on the “western” rotation under Drs Kennedy and Fowler. His 1976 fellowship took him to Eugene, Oregon, under Dr Slocum.

His lineage in orthopaedic surgery was three generations deep. His father, Dr A.S. McConkey, was an orthopaedic surgeon, and Pat’s son, Dr Mark McConkey, is an orthopaedic surgeon at Lions Gate Hospital in North Vancouver.

Legacies are about people, and Pat created legacies. He was a leader and an integrated team player at the Allan McGavin Sports Medicine Centre at UBC. Working with his bright and energetic colleagues, he dedicated his excellence to the optimal care of the athlete. Throughout all of this intensity he always had time to inject laughter and fun into all undertakings.

Pat pioneered and popularized the current optimal care for athletes with knee injuries. His 1986 article about a new mechanism of ski injuries, published in the *American Journal of Sports Medicine*, was a seminal accomplishment. The rest of the world took notice. Internationally, Pat gained recognition for his comprehensive understanding and treatment of the athlete’s knee. At home in Canada, Pat quietly but progressively taught us the important findings, diagnostic guides, and best management for knee injuries. From him, many hundreds have

learned the importance of careful examination while using the appropriate diagnostic tests. His understanding of the knee paved the way for our current correlation of knee pathology to the findings on MRIs.

Pat became the consultant to the Canadian Alpine Ski Team in 1981, and for many decades the best athletes in the world trusted him with their care. While he looked after many athletes and multiple teams, the skier remained his focus, and the skiing world benefited immensely from his visionary observations and treatment. When you traveled the world to orthopaedic and sports medicine meetings, you were always asked if you had worked with Dr McConkey.

Pat was forever a fighter for truth and excellence in all areas of his life. Nothing was more important to him than his family. His wife, Christie, was his partner on their voyage of 48 years together. Their three children, Mark, Bronwen, and PJ, were forever a source of pride and fulfillment.

Pat’s final 8 years, spent living with brain cancer, were very hard. With his constant caregiver, Christie, he was able to enjoy a great deal of satisfaction with his family and lifelong friends. It was Christie who allowed Pat to soldier on as he did with such dignity to the end. What a team.

A person’s life can be measured in documented accomplishments; Pat had many of these. But above all, Pat will be remembered by those he brought along with him for the ride. He shared, he laughed, he loved like few others ever will. He is dearly missed.

—Paul Wright, MD
Whistler

Guidelines for authors

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

We welcome letters, blog posts, articles, and scientific papers from physicians in British Columbia and elsewhere. Manuscripts should not have been submitted to any other publication. Articles are subject to copyediting and editorial revisions, but authors remain responsible for statements in the work, including editorial changes; for accuracy of references; and for obtaining permissions. The corresponding author of scientific articles will be asked to check page proofs for accuracy.

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

All materials must be submitted electronically, preferably in Word, to:

The Editor

BC Medical Journal

E-mail: journal@doctorsofbc.ca

Tel: 604 638-2815

Web: www.bcmj.org

Editorial process

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

and on the backlog of papers scheduled for publication. Manuscripts are returned only on request. The *BCM J* is posted for free access on our website.

For all submissions

- Avoid unnecessary formatting, as we strip all formatting from manuscripts.
- Double-space all parts of all submissions.
- Include your name, relevant degrees, email address, and phone number.
- Number all pages consecutively.

Opinions

BCMD2B (medical student page). An article on any medicine-related topic by a BC physician-in-training. Less than 2000 words. The *BCM J* also welcomes student submissions of letters and scientific/clinical articles. BCMD2B and student-written clinical articles are eligible for an annual \$1000 medical student writing prize.

Blog. A short, timely piece for online publication on bcmj.org. Less than 500 words. Submissions on any health-related topic will be considered. Should be current, contain links to related and source content, and be written in a conversational tone.

The Good Doctor. A biographical feature of a living BC physician. Less than 2000 words.

Letters. All letters must be signed, and may be edited for brevity. Letters not addressed to the Editor of the *BCM J* (that is, letters copied to us) will not be published. Letters commenting on an article or letter published in the *BCM J* must reach us within 6 months of the article or letter's appearance. No more than three authors. Less than 300 words.

Point-Counterpoint. Essays presenting two opposing viewpoints; at least one is usually solicited by the *BCM J*. Less than 2000 words each.

Premise. Essays on any medicine-related topic; may or may not be referenced. Less than 2000 words.

Proust for Physicians. A lighthearted questionnaire about you. Submit responses online at www.surveymonkey.com/s/proust-questionnaire, print a copy from the *BCM J* website at www.bcmj.org/proust-questionnaire, or contact journal@doctorsofbc.ca or 604 638-2858.

Special Feature. Articles, stories, history, or any narrative that doesn't fit elsewhere in the *BCM J*. Less than 2000 words.

Departments

Obituaries. Include birth and death dates, full name and name deceased was best known by, key hospital and professional affiliations, relevant biographical data, and photo. Less than 500 words.

News. A miscellany of short news items, announcements, requests for study participants, notices, and so on. Submit suggestions or text to journal@doctorsofbc.ca or call 604 638-2858 to discuss. Less than 300 words.

Clinical articles/case reports/survey studies

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

- Title, and subtitle, if any.
- Preferred given name or initials and last name for each author, with relevant academic degrees.
- All authors' professional/institutional affiliations, sufficient to provide the basis for an author note such as: “Dr Smith is an associate professor in the Department of Obstetrics and Gynaecology at the University of British Columbia and a staff gynecologist at Vancouver Hospital.”
- A structured or unstructured abstract of no more than 150 words. If structured, the preferred headings are “Background,” “Methods,” “Results,” and “Conclusions.”
- Three key words or short phrases to assist in indexing.
- Disclaimers, if any.
- Name, address, telephone number, and email address of corresponding author.

Survey studies must have a response rate of at least 50% in order for the paper to be reviewed for publication consideration. Papers with less than this response rate will not be reviewed by the *BCM J* Editorial Board. We recognize that it is not always possible to achieve this rate, so you may ask the Editor in advance to waive this rule, and if the circumstances warrant it, the Editor may agree to have the paper reviewed.

Authorship, copyright, disclosure, and consent form

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

1. Authorship. All authors must certify in writing that they qualify as an author of the paper. To be considered an author, an individual must meet all three conditions:

- Made substantial contributions to the conception and design, acquisition of data, or analysis and interpretation of data, and

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

Order of authorship is decided by the co-authors.

2. Copyright. All authors must sign and return an “Assignment of copyright” prior to publication. Published manuscripts become the property of Doctors of BC and may not be published elsewhere without permission.

3. Disclosure. All authors must sign a “Disclosure of financial interests” statement and provide it to the *BCM J*. This may be used for a note to accompany the text.

4. Consent. If the article is a case report or if an individual patient is described, written consent from the patient (or his or her legal guardian or substitute decision maker) is required.

Papers will not be reviewed without this document, which is available at www.bcmj.org.

References to published material

Try to keep references to fewer than 30. Authors are responsible for reference accuracy. References must be numbered consecutively in the order in which they appear in the text. Avoid using auto-numbering as this can cause problems during production.

Include all relevant details regarding publication, including correct abbreviation of journal titles, as in *Index Medicus*; year, volume number, and inclusive page numbers; full names and locations of book publishers; inclusive page numbers of relevant source material; full web address of the document, not just to host page, and date the page was accessed. Examples:

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

(NB: List up to four authors or editors; for five and more, list first three and use et al.)

2. Mollison PL. *Blood Transfusion in Clinical Medicine*. Oxford, UK: Blackwell Scientific Publications; 2004. p. 78-80.
3. O'Reilly RA. Vitamin K antagonists. In: Colman RW, Hirsh J, Marder VJ, et al. (eds). *Hemostasis and Thrombosis*. Philadelphia, PA: JB Lippincott Co; 2005. p. 1367-1372.
4. Health Canada. *Canadian STD Guidelines, 2007*. Accessed 15 July 2008. www.hc-sc.gc.ca/hpb/lcdc/publicat/std98/index.html.

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

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

References to unpublished material

These may include articles that have been read at a meeting or symposium but have not been published, or material accepted for publication but not

yet published (in press). Examples:

1. Maurice WL, Sheps SB, Schechter MT. Sexual activity with patients: A survey of BC physicians. Presented at the 52nd Annual Meeting of the Canadian Psychiatric Association, Winnipeg, MB, 5 October 2008.
2. Kim-Sing C, Kutynec C, Harris S, et al. Breast cancer and risk reduction: Diet, physical activity, and chemoprevention. *CMAJ*. In press.

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

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

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Scientific misconduct

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

Tables and figures

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

Tables. Please adhere to the following guidelines:

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

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

- Images must be high resolution; if unsure, send highest resolution possible and we will advise if necessary.

- Number figures consecutively in the order of their first citation in the text and supply a brief title for each.
- Place titles and explanations in legends, not in or on the illustrations themselves.
- Provide internal scale markers for photomicrographs.
- Ensure each figure is cited in the text.
- Color is not normally available, but if it is necessary, an exception may be considered.

Units

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

Abbreviations

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

Drug names

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

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Reprint order forms will be sent to authors upon publication of the article. If you know that you would like additional copies prior to printing, please advise us and we can arrange a larger print run.

Manuscript submission checklist

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

- Authorship, copyright, disclosure, and consent form is completed and included (available at www.bcmj.org).
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- Three key words are provided.
- Author information is provided for all authors.
- References in text are in correct numerical order.
- Reference list is in correct numerical order and is complete.
- References list contains up to three authors only.
- All figures and tables are supplied.
- Permissions letters are included.

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.

PSYCHOLOGICAL PPE PEER SUPPORT BEYOND COVID-19

Online (Wednesdays)

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

OPTIMIZING CARE FOR GAY, BISEXUAL, AND OTHER MEN WHO HAVE SEX WITH MEN

Online (ongoing)

This is a short online continuing medical education course designed for family physicians and primary care providers in Canada. This course will introduce you to gbMSM health issues and implications with the intent to provide you with the knowledge and skills to improve the care of your gbMSM patients. Designed in partnership by UBC CPD, Community-Based Research Centre, Health Initiative for Men, Interior Health, Island Health, Fraser Health, Northern Health, Men's Health Initiative, Providence Health Care, and Vancouver Coastal Health. This course can be taken anytime and is divided into four lessons: 1) Social and Political Context of gbMSM health, 2) Epidemiology

& Life Course, 3) Safer Spaces, Language, and Communication, and 4) Case Studies. For more information visit <https://ubccpd.ca/course/gbmsm-online>.

ANATOMY-BASED BOTULINUM TOXIN TRAINING

Vancouver (3 Jun 2021–30 Sep 2022)

Expand your practice with injectables. Learn both the therapeutic (migraines/headaches) and aesthetic (fine facial lines and wrinkles) applications. PTIFA offers anatomy-based training (20+ hours) and training recognized by the highest standard of practice in Canada. Receive the most clinically based training, including the opportunity to inject 8+ patients. Courses held monthly on UBC Campus in Vancouver. Start today with the online Level 1 – Advanced Anatomy course (20 CME). Save \$500. Use code "BCMJonline" before 30 September 2021. Register now at PTIFA.com.

BC DIGESTIVE DISEASES WEEKEND

Online (11 Sep)

We are very pleased to present our 11th annual and first virtual BC Digestive Diseases Weekend conference. This program was developed by the Division of Gastroenterology, Island Health Authority, and was planned to achieve scientific integrity, objectivity, and balance. This event is applicable to gastroenterologists, surgeons, internists, family physicians, hospitalists, ER physicians, sub-specialists, pharmacists, nurses, nurse practitioners, and other health care providers. Registration fees: physicians, pharmacists, and nurse practitioners: \$185 before 21 August, \$200 after 21 August. Nurses \$145 on or before 21 August, \$160 after. Students \$95. This group learning program has been certified

for up to 7.25 Mainpro+ credits. This event has been approved by UBC CPD for up to 6.25 MOC Section 1 group learning credits. For more information or to register visit www.cvent.com/d/5jqglc or www.novaclinical.com. Email info@novaclinical.com.

WHAT YOU NEED TO KNOW FOR YOUR PATIENTS POST BREAST AND PROSTATE CANCER

Online (18 Sep 2021)

Please join us for the third annual What You Need to Know for Your Patients Post Breast and Prostate Cancer conference on Saturday 18 September 2021. This half-day virtual conference is brought to you by the Prostate Cancer Supportive Care Program. The conference will focus on screening, treatment, side effect management, and emerging new therapies for breast and prostate cancer patients. Target audience: Any physician or allied health provider who is involved with the care of breast and prostate cancer patients; this includes family physicians, general practitioners in oncology, urologists, radiation and medical oncologists, nurse practitioners, and nurses. Accredited by UBC CPD for up to 4.25 MOC Section 1/Mainpro+ group learning credits. To register: What You Need to Know Post Breast & Prostate Cancer CPD Conference Tickets, Sat, 18 Sep 2021 at 8:00 a.m. on Eventbrite.

GP IN ONCOLOGY EDUCATION

Online (27 Sep–29 Oct)

BC Cancer's Family Practice Oncology Network offers an 8-week General Practitioner in Oncology education program beginning with a 2-week introductory session every spring and fall at BC Cancer–Vancouver. This program

CALENDAR

offers an opportunity for rural family physicians, with the support of their community, to strengthen their oncology skills so that they can provide enhanced care for local cancer patients and their families. Following the introductory session, participants complete a further 30 days of clinic experience at the cancer centre where their patients are referred. These are 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 Dilraj Mahil at dilraj.mahil@bccancer.bc.ca.

THE 33RD ANNUAL DIABETES DIRECTORS SEMINAR

Online (22 Oct)

The Endocrine Research Society is pleased to present the 33rd Diabetes Directors Seminar—an annual, UBC-accredited gathering of leading diabetes experts and caregivers across British Columbia. Join us virtually from home or work over Zoom videoconferencing for a full-day presentation series covering the latest and most pertinent aspects of diabetes therapeutics and clinical care. Target audience: specialists and family physicians with an interest in diabetes care, as well as nurses, dietitians, pharmacists, and other diabetes educators responsible for diabetes management within their own groups and communities. Register now as space is limited. Online registration at: www.endocrineresearchsociety.com/events/33rd-annual-diabetes-directors-seminar. Please contact Calvin Chang at the Endocrine Research Society for more information or registration questions. Email endocrine.research.society@gmail.com, phone 604 689-1055.



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PRACTICES AVAILABLE

SOUTH SURREY—FAMILY PRACTICE AVAILABLE

Busy office with six colleagues, panel of over 1200 patients. Pleasant suburban family practice. Available 1 December 2021. Physician moving to another city in 2022. Work 3 to 4 days per week. Intrahealth Profile EMR with telemed license, 70/30 split on first \$100 000 billed. Contact mochiboi08@gmail.com.

VANCOUVER—FULL-TIME OR PART-TIME FAMILY DOCTOR

We are looking for a long-term colleague. You can start short-term and switch to long-term if interested. We have a busy hybrid clinic (family practice and walk-in) with 10 exam rooms in downtown Vancouver. Most patients are middle-age working population. We provide both virtual and in-person appointments. With lifting of the COVID-19 restrictions we are getting more tourists and private patients as well. Clinic is new and well equipped. Staff are friendly. Please contact Dr Ali Rastikerdar by email at ali.rastikerdar@mail.mcgill.ca. Clinic website www.loyalmedicalclinic.com, tel 604 428-8313.

EMPLOYMENT

ACROSS CANADA—PHYSICIANS FOR YOU: MATCHING DOCTORS WITH CLINICS

Are you a physician looking for work across Canada? Or a medical facility requiring physicians? Our specialized recruitment team can help. We work with independently licensed physicians in Canada and CFPC/RCPSC-eligible international medical graduates. Our strong reputation is built on exceptional service and results. Check out our website for reviews and current job postings, and call Canada's trusted recruitment company today. Website www.physiciansforyou.com, email info@physiciansforyou.com, or call 1 778 475-7995.

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BURNABY—PSYCHIATRISTS FOR SIMON FRASER UNIVERSITY

Simon Fraser University's Health and Counselling Services is seeking part-time psychiatrists to join its multidisciplinary team providing services to domestic and international university students at the SFU Burnaby Campus. Our mental health team includes physicians, mental health nurses, a transition case manager, case managers, psychologists, registered clinical counsellors, and counselling interns. Compensation is provided via a combination of fee-for-service (MSP), sessional payments, and a service contract agreement. Applicants must have FRCPC and be eligible for full licensure with CPSBC. For further information please contact Gracia Hansma at admin_assistant@sfu.ca.

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NANAIMO—GP

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

CLASSIFIEDS

NISGA'A VALLEY—FAMILY MEDICINE IN BEAUTIFUL NISGA'A VALLEY

Family physicians needed to provide primary and urgent care for a population of 3500 in four communities across the traditional Nisga'a Territory. A team of three physicians works together to provide full-scope services (excluding obstetrics) in concert with other services such as home care, public health, and mental wellness and addictions. The health and wellness centres are staffed with full-time RNs who take first call after hours. Soaring mountains, picturesque fjords, dramatic lava beds, natural hot springs, and thriving rivers offer outstanding recreation year-round. Excellent remuneration. Contact Jeremy Penner at md@nisgahealth.bc.ca.

NORTH VAN—FP LOCUM

Flexible hours and vacation time with no call. In-office and/or telehealth options available with great MOA support staff and a new competitive split; 100% to doctors for optional hospital visits, nursing home visits, medical-legal letters, etc., or sessional work. For further information contact Kim at 604 987-0918 or kimgraffi@hotmail.com.

POWELL RIVER—LOCUM

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

clinic@tmca-pr.ca, website: powellrivermedicalclinic.ca.

SURREY—FP FULL-TIME, CLAYTON HEIGHTS

Beyond Health & Medical is looking for a full-time family physician. Thrive in a supportive and collaborative environment and maximize your time and effort. If you have a passion for providing exceptional care and helping people live their best lives, join a fun and innovative medical practice working alongside other health care professionals that have the same passion as you. Beyond Health & Medical is a busy practice with a beautiful office environment located in a very high traffic area of Clayton Heights Surrey. Email info@beyondhealth.ca for more information.

SOUTH SURREY/WHITE ROCK—FP

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

SURREY (BEAR CREEK AND NEWTON)—FAMILY PRACTICE

We are looking for part-time/full-time physicians for walk-in/family practice to work on flexible shifts between 9 a.m. and 6 p.m.; option to work 7 or 5 days per week. Clinic with eight exam rooms, two physio rooms, and pharmacy on site.

Competitive split. For more information please contact Anand at wecaremedicalclinic2021@gmail.com or 778 888-7588.

SURREY CITY CENTRE—SPECIALISTS, RMTS, PHYSIO, AND DIETITIANS

The Mercer Clinic at City Centre 2 is inviting specialists, registered massage therapists, physiotherapists, and dietitians to join our team in a part-time or full-time capacity. Our current medical team includes two endocrinologists and an internist. Our clinic is a brand-new, well-equipped modern facility and has plenty of examination rooms and offices for physicians. We use Accuro electronic medical records and have highly trained staff, which allows for no administrative burdens. We are conveniently located steps away from Surrey Memorial Hospital, Life Labs, and West Coast Imaging. For more information please contact Jessie at jessie@mercerclinic.ca or 236 427-1088.

SURREY/DELTA/ ABBOTSFORD—GPs/ SPECIALISTS

Considering a change of practice style or location? Or selling your practice? Group of seven locations has opportunities for family, walk-in, or specialists. Full-time, part-time, or locum doctors guaranteed to be busy. We provide administrative support. Paul Foster, 604 572-4558 or pfoster@denninghealth.ca.

VANCOUVER/RICHMOND—FP/ SPECIALIST

We welcome all physicians, from new graduates to semi-retired,

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MISCELLANEOUS

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with guests
Dr Terri Aldred and Len Pierre

DocTalks
A Doctors of BC Podcast

Dr Toye Oyelese

Dr Oyelese answers the Proust questionnaire to share a little about himself.



What profession might you have pursued, if not medicine?

Software programming.

Which talent would you most like to have?

World-class guitar player.

What do you consider your greatest achievement?

Raising two amazing young men (my sons).

Who are your heroes?

I don't have any heroes, but I have a lot of respect for Muhammad Ali, Martin Luther King Jr., Nelson Mandela, and Maya Angelou.

What is your idea of perfect happiness?

Enough worries to keep me occupied and enough joy to keep me satisfied.

What is your greatest fear?

Heights, and people who have nothing to lose.

What is the trait you most deplore in yourself?

My talkative nature.

What characteristic do your favorite patients share?

Respect and genuine appreciation.

What is your favorite activity?

Mentoring.

On what occasion do you lie?

When telling the truth would do more harm than good.

Which words or phrases do you most overuse?

"Where do I go from here?"

What is your favorite place?

My mind.

What medical advance do you most anticipate?

Gene therapy.

What is your most marked characteristic?

Audaciousness.

What do you most value in your colleagues?

Honesty and hard work.

What is your favorite book?

Animal Farm.

What is your greatest regret?

Too little time.

What is the proudest moment of your career?

Requalifying to practise in Canada, against all odds.

What is your motto?

First be your own best friend, and then do the same for others.

How would you like to die?

With dignity.

Dr Oyelese is a family doctor in West Kelowna, where he practises comprehensive, longitudinal family medicine. He believes that family physicians are specialists in primary care and that healthy patients need healthy, well-balanced physicians. He is also the incoming president of BC Family Doctors.

Submit a Proust questionnaire

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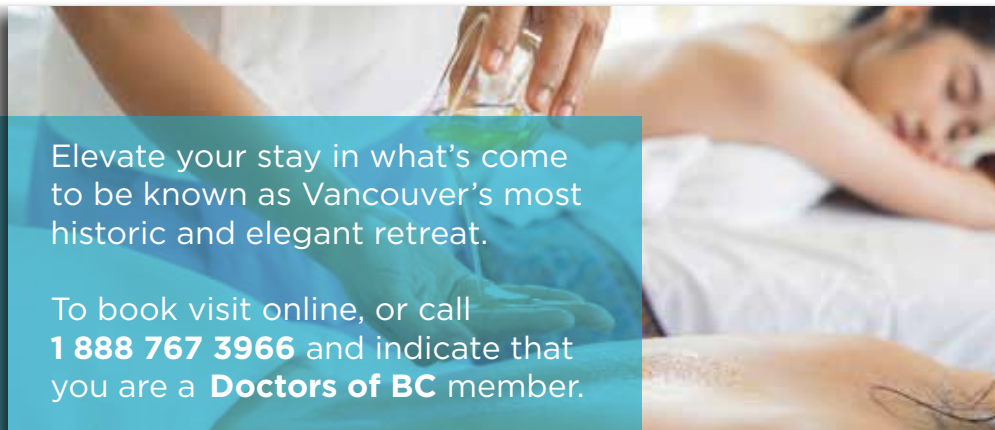
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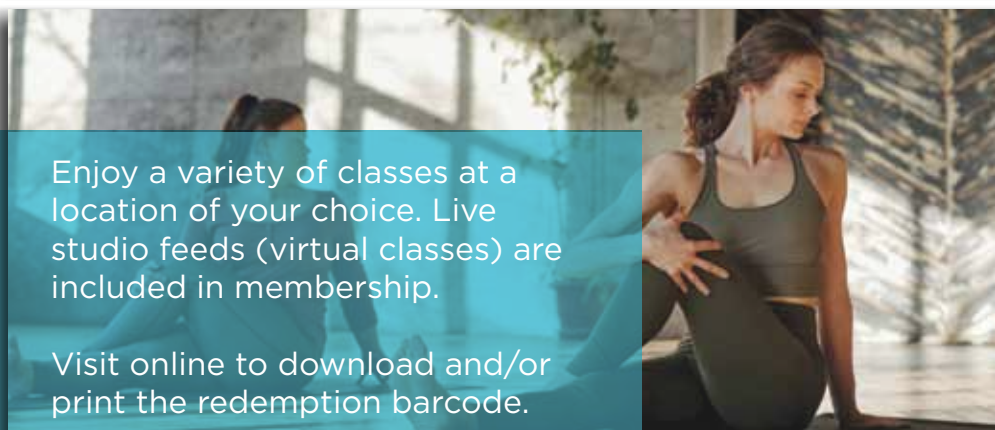
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