

BCMj

A Doctors of BC Publication

1900

125

2025

years of advocacy



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Mission: The *BCMj* is a general medical journal that shares knowledge while building connections among BC physicians.

Vision: The *BCMj* is an independent and inclusive forum to communicate ideas, inspiring excellent health care in British Columbia.

Values

Quality: Publishing content that is useful, current, and reliable.

Connections: Sharing diversity of thought and experiences from across the province and promoting communication between BC doctors.

Impact: Striving for healthier patients and communities by amplifying physicians' voices, opinions, research, and news.

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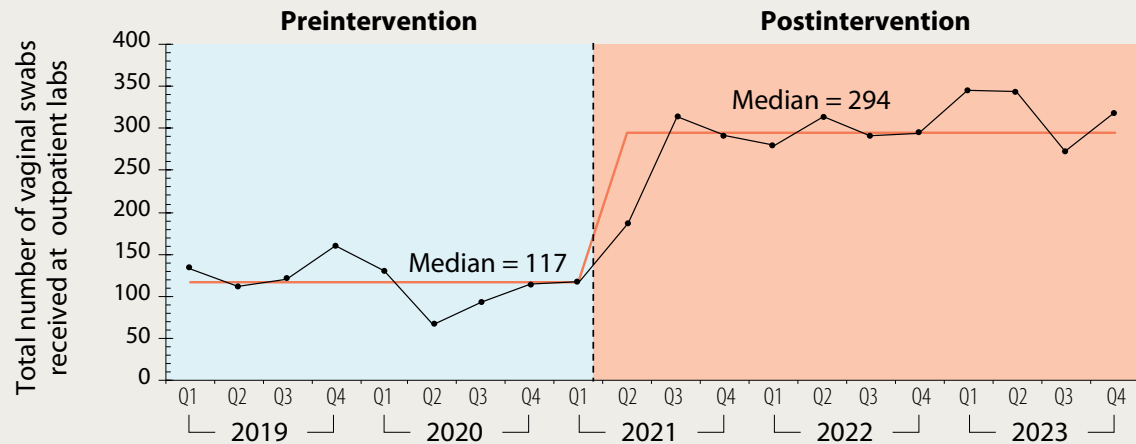
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National Physicians' Day and "The celebrated abortion trial of Dr Emily Stowe"

National Physicians' Day is recognized annually on the birthday of Dr Emily Jennings (Stowe). Born 1 May 1831, Dr Stowe was a trailblazer—the first woman in Canada to openly establish a medical practice and a founding member of the Canadian Women's Suffrage Association.

Denied entry to medical school in Canada—like all women of her time—she refused to accept the limitations imposed upon her. Instead, she pursued her studies abroad, earning a degree in homeopathic medicine from the New York Medical College for Women in 1867, at the age of 36.

Upon returning to Canada, Dr Stowe established a medical practice in Toronto, despite lacking a formal licence. She quickly gained a strong base, particularly among female patients. However, in 1869, new laws granted the College of Physicians and Surgeons of Ontario exclusive authority to license doctors, requiring applicants to have attended at least one session at an Ontario medical school.¹ Repeatedly denied Canadian medical college registration because of her gender, Dr Stowe was undeterred and continued her practice.

In 1870, she and Jennie Kidd Trout were finally permitted to attend lectures at the Toronto School of Medicine, though their experience was fraught with hostility. Subjected to harassment and humiliation from the male-dominated student body, Dr Stowe ultimately did not complete the oral and written licensure exams required by the college, reportedly unwilling to place her fate in the hands of a prejudiced panel.^{1,2}

Dr Stowe's challenges did not end there. In 1879, she became the target of a criminal charge—attempting to procure an

abortion. "The celebrated abortion trial of Dr. Emily Stowe, Toronto, 1879*" (1991) explores the nuances and complexities of her well-publicized prosecution. The case involved a 19-year-old unmarried domestic servant who had sought Dr Stowe's care in May 1879. Three months later, the young

**As we observe National
Physicians' Day this
year and celebrate 125
years of determination,
I reflect on all of you—
my colleagues.**

woman was found dead. The article's author speculated on Dr Stowe's internal conflict, noting that, while she was a feminist, her stance on abortion remained unclear. Rather than turning the patient away or alerting authorities, she prescribed a mixture of heliobore, cantharides, and myrrh—intended, as she later testified, as a placebo to prevent the young woman from seeking more dangerous alternatives. Expert witness testimony affirmed that the prescription could not have harmed the patient or her fetus.

Despite this, the trial subjected Dr Stowe to intense misogyny. Additionally, the coroner admitted to being intoxicated during the inquest, and he later misplaced all the physical evidence, including the prescription itself. In the end, Dr Stowe was acquitted. Just months later, in 1880, she was granted a medical licence in Ontario—some speculate due to the skill she demonstrated at her trial and support from expert witnesses.² Her eldest daughter, Augusta Stowe-Gullen, carried on her legacy,

becoming the first white woman to graduate from a Canadian medical college, in 1883.

Though we cannot ask Dr Stowe what fueled her resolve and determination, one might speculate that medicine was her true calling. She left behind a stable teaching career to enter a profession that, at the time, offered neither financial security nor social acceptance for women. She endured public scrutiny and sacrificed time with her children, all in pursuit of her passion. Dr Stowe passed away in 1903, but her perseverance laid the foundation for future generations of women in medicine.³

This year, Doctors of BC celebrates 125 years of advocating for and supporting BC doctors to influence the health care system and create positive change for their patients. Looking back also includes acknowledging historical injustices and reaffirming a commitment to learn from the people and actions of the past to shape the future.

As we observe National Physicians' Day this year and celebrate 125 years of determination, I reflect on all of you—my colleagues—and the sacrifices you have made to serve your patients. Your dedication may sometimes go unrecognized, but it is deeply valued. ■

—Caitlin Dunne, MD

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An epic voyage

It was on an epic CME Paul Gauguin cruise through the Cook Islands in 2014 where I first came across a very interesting posse of people—a cluster of the *BCMJ*-ers. A few years later, I happily joined the diverse and incredibly wise *BCMJ* Editorial Board. Now, after almost a decade of memories, learnings, and camaraderie, and being one of the senior members of the group, I have decided to retire from the Editorial Board, and I've been reflecting on the positive impact that being involved with the *BCMJ* has had on my role as a family physician.

Being an Editorial Board member allowed me to help spread the knowledge that comes to us in many forms: clinical articles, letters, blog posts, student-written articles, essays, artwork, news, obituaries, advertisements, the occasional haiku, and some very interesting rants. As physicians, we are scholars and lifelong learners, and we use this knowledge to educate our patients.

It also made me a better communicator. I recently attended a celebration of life for one of my cherished patients, and I learned more about her in that 1 hour than I had in the 12 years I had known her. I was shocked by this revelation, but then I felt inspired to do better. I now end most of my patient interactions by asking my patients to share an anecdote about themselves. This type of information gathering deepens my relationships with my patients and plays an important role in providing effective and informed health care decisions in the future.

It gave me the opportunity to take in more stimulating reads and explore my creative writing skills. Unfortunately, a lot of my work as a family physician is spent writing sick notes, filling out disability forms, and reviewing endless reports. This time *should* be spent caring for, diagnosing, and treating patients. As a side note, it appears we are finally seeing the end of routine sick notes. We need to continue to advocate for

eliminating the endless administrative burden that is placed on primary care providers, as this is a possible deterrent in recruiting new family physicians.

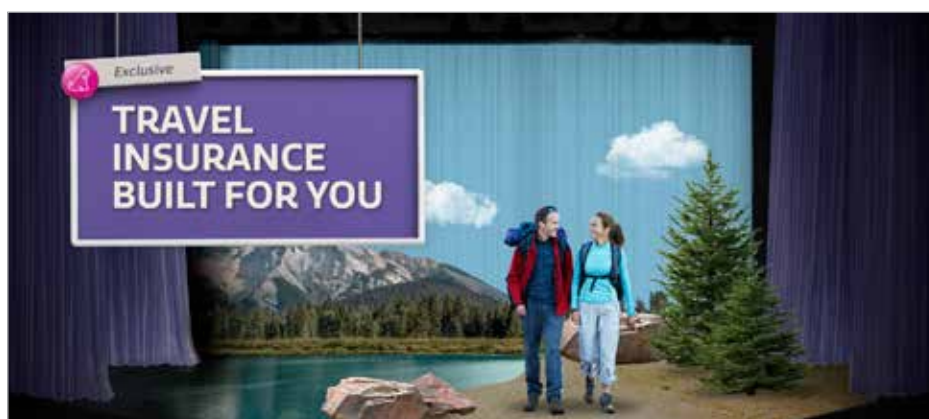
The camaraderie of the *BCMJ* group has encouraged my collaboration with health professionals in my community.

The camaraderie of the *BCMJ* group has also encouraged my collaboration with health professionals in my community. As a solo family physician, I had inadvertently isolated myself from my colleagues. Now I am a regular attendee at many of the events organized by our department of family practice, our division of family practice, and our

medical staff association in Kamloops. I am excited to be engaging in an Indigenous cultural safety and humility day of learning with my peers. I am also going to be throwing stones in a doctors versus medical residents curling match in Kamloops, where the residents will be led by a Scotties Tournament of Hearts All-Star! I think focusing on team building and delivering effective team-based care is one of the solutions to our primary care crisis.

I feel honored and thankful to have had this epic experience, and I will maintain the many skills and tools I acquired to advocate for the future of primary care. I also look forward to picking up the monthly *BCMJ* and cruising through the uplifting and well-crafted articles and stories. ■

—Jeevyn K. Chahal, MD



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Letters to the editor

We welcome original letters of less than 500 words; we may edit them for clarity and length. Email letters to journal@doctorsofbc.ca and include your city or town of residence, telephone number, and email address. Please disclose any competing interests.

Striving for a sustainable, low-carbon health care system

In her October 2022 President's Comment,¹ Dr Ramneek Dosanjh noted, "As physicians, we are all leaders and trusted advocates for our patients and our communities. Now is the time to use this leadership to communicate about the health impacts of climate change, to contribute to short- and long-term strategies that reduce potential harms, and to actively make changes in the health care system for the good of our patients and our planet." I am writing to request that the *BCMJ* further its current impressive leadership¹⁻⁶ by including health care sustainability in publication decisions.

Collective recognition of and action on health care's contribution to 4% of national greenhouse gas emissions⁷ and pollution can complement and enhance providing low-carbon, high-quality health care,⁸ shifting us out of our unenviable position—second-highest per capita in national health care emissions.⁹ The *BCMJ* has an opportunity to raise awareness by making it policy to consider emissions and pollution-related concerns in its articles. A commentary in *Lancet Planetary Health* provides eight dimensions that could be adapted for this aim.¹⁰ Centring sustainability for authors and readers may lead to them sharing ideas with patients, who have been shown to support Canadian health systems moving to low-carbon/low-waste care.⁴

Here are two examples of how health care sustainability considerations could have been incorporated into recent articles published in the *BCMJ*:

- "A call to action: Dermatology's role in combatting colorism":¹¹ If the author had been requested to include sustainability

considerations, they would have discovered that many skin-lightening products contain mercury,¹² and a 2022 systematic review demonstrated elevated mercury levels in the urine and blood of skin-lightening product users.¹³ This could have been described as a clinical and pollution-related consideration.

- "Implementation of human papillomavirus primary screening for cervical cancer in BC":¹⁴ Significantly reduced use of single-use plastic specula and quicker detection of cancerous and precancerous conditions would have sustainability co-benefits (less intensive health care with fewer emissions and less waste).¹⁵

Some researchers are already thinking about such considerations. For example, Dr Davie Wong, author of "The unsubstantiated preference for outpatient IV antibiotics," noted that oral antibiotics have a lower carbon footprint than their IV counterparts.¹⁶ The article is about the clinical benefits of oral antibiotics over IV, but it incorporates the environmental co-benefit as well.¹⁷

In his mandate letter¹⁸ to Minister of Health Josie Osborne, Premier David Eby wrote, "Our commitment to take action on climate change remains foundational and will be key to a healthy and prosperous BC for future generations." Health authorities have a government-mandated commitment to reduce carbon emissions;¹⁹ therefore, sustainable practices must be embedded in our work. The *BCMJ* can support this sustainable, low-carbon health care system by identifying environmental sustainability alongside clinical excellence.

—Rashmi Chadha, MBChB, MScCH, CCFP (AM), FASAM
Addictions Physician, Vancouver Coastal Health

**Clinician Engagement Lead for Planetary Health, Vancouver Coastal Health
Co-chair, Provincial Sustainable Clinical Services Working Group, Health Quality BC**

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Editor's note: Thank you for bringing this up. We will consider how to do this.

Re: Closure of the CPSBC Library

I have several provincial licences and have worked in many provinces. I have long admired BC for its progressive steps in ensuring excellence in medical care, one of which was the College of Physicians and Surgeons of BC's Library. I used it frequently. There was and still is nothing else like it, and the librarians were incredibly helpful. Its sudden cessation was a huge loss to physicians who want to research answers to clinical questions to stay current and provide better care and a huge step backward for BC health care. I would have happily paid more to keep it going, but per usual with administrative decisions from above, we physicians weren't asked. Perhaps, in the future, if national licensure ever comes about, a similar resource can be part of the benefits that would provide. We physicians should ask for this.

—Faye MacKay, MD, CCFP, FCFP
Langham, SK

Re: Unnecessary dental antibiotic prescribing

The BCCDC article about how to choose wisely when deciding whether to prescribe prophylactic antibiotics prior to dental procedures [*BCM J* 2025;67:71-72] left me with a personal quandary: Should I continue my habit of taking a single dose of 2 grams of amoxicillin prior to dental procedures?

According to the article, one does not use prophylactic antibiotics in patients with nonvalvular cardiac or other indwelling devices (such as my pacemaker), only if there is a history of a prosthetic heart valve, a history of infectious endocarditis, cardiac transplant with valvular regurgitation, or certain congenital heart disease scenarios.

A decade ago, I had abdominal surgery, which left me with drains for several months. Six weeks postoperatively, symptoms of septicemia developed. Wound cultures were negative, while blood culture grew *Staphylococcus aureus*. No primary source for this bacterium could be identified. Eight weeks of IV cloxacillin later, symptoms returned within 24 hours of its cessation.

Positron emission tomography scan for endocarditis was negative, so another 8 weeks of IV cloxacillin was tried, only to be followed by recurrent septicemia symptoms for a third time, when antibiotics were stopped.

Pacemaker and leads were then removed. They grew the *Staphylococcus aureus*. Finally, after close to 6 months of antibiotics (and negative blood cultures), a new pacemaker

and leads were inserted. No bacteremia recurred.

Acute pericarditis developed 8 weeks postinsertion of the new pacemaker and leads. This inflammation started 24 hours after a routine influenza vaccination. It was felt to be unrelated to the bacteremia and responded to anti-inflammatory treatment.

I would be interested to hear what Dr Patrick and his team would do for themselves before dentistry if they had personally undergone this scenario.

—Anthony Walter, MB BCH, retired
Coldstream

Authors reply

We thank Dr Walter for sharing his story and question in the context of our article. We are pleased to hear that he has been well since clearing the infection he described.

Quoted guidelines like those produced by the American Heart Association serve to distill the best available evidence to inform practice in most cases for most patients. There is always room for variation in unique circumstances upon discussion between physician and patient.

We can offer a few points that might inform that ongoing choice:

- Recurrent problems with *Staphylococcus aureus* bacteremia followed a complicated abdominal surgery, where an infected pacemaker was eventually found to be the reservoir. Endocarditis was a legitimate concern but was not confirmed by investigations. If there

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A legacy of care: Celebrating 125 years of Doctors of BC

A group of dedicated physicians came together 125 years ago to form what is now Doctors of BC, at a time when medical professionals had little support, few resources, and limited influence on health care policies. Their goal was to ensure physicians had a voice and were supported so patients could receive the best possible care.

Today, we celebrate the incredible impact Doctors of BC has had over the past 125 years, shaping the future of medicine in BC. We reflect on how far we've come—not only in medicine but also in the strength of our physician community. Today, the association supports a community of roughly 17 000 physicians dedicated to influencing real change for the health care system and for patients. This milestone anniversary isn't just a testament to longevity; it's a celebration of dedication, innovation, and an unwavering commitment to advocate for and support physicians across British Columbia.

While there is still much work to do, we have many historical achievements to be proud of.

Advocating for physicians and patients

For more than a century, Doctors of BC has been the leading advocate for physicians, ensuring they have the resources, support, and fair compensation necessary to provide quality care.

Doctors of BC was the first provincial association in Canada to hire a professional negotiator to represent doctors in contract negotiations—an innovative

approach that every other provincial and territorial medical association has since followed. Throughout its existence, the association has continuously evolved to meet the ever-changing needs of its members, the profession, and the health care system. Whether negotiating contracts, advocating for better working conditions, or championing physician wellness, the association has stood firmly in support of the medical community.

At the same time, patient care and health promotion continue to be a mainstay of our advocacy. Through strong lobbying efforts and by rallying thousands of British Columbians, Doctors of BC played significant roles in making seatbelts mandatory for those over 16, making car seats mandatory for infants and children, persuading the government to place a moratorium on uranium mining, and banning tobacco smoking in all indoor public spaces.

Positioning BC doctors as leaders in transforming health care

Across the decades, Doctors of BC has played a crucial role in amplifying physicians' voices, ensuring they have a seat at decision-making tables and a strong influence in shaping health care policies, funding decisions, and systemic improvements. From negotiating fair compensation and working conditions to advocating for patient access, physician well-being, and gender equity in medicine, Doctors of BC has been instrumental in helping shape a system that aims to improve doctors' lives, patient care, and the population's overall health.

And through our unique Joint Collaborative Committees, BC physicians have emerged as leaders, working with partners to develop innovations to enhance quality patient care, strengthen physician satisfaction, and build a stronger health care system.

Building a stronger, more inclusive medical community

A community that thrives for 125 years does so not only through its achievements but also through its ability to evolve. Today, the medical community is more diverse, collaborative, supportive, and empowered than ever before. Doctors of BC's commitment to equity, diversity, and inclusion supports physicians from all backgrounds, specialties, and experiences to come together and learn from one another, advocate for one another, and strengthen the bonds that make medicine such a uniquely fulfilling profession.

From mentorship programs to wellness initiatives, from leadership development to equity and inclusion efforts, Doctors of BC has fostered an environment where every physician—whether a seasoned expert or a newly minted graduate—feels supported and valued. This sense of community is what enables doctors to provide the best possible care to their patients while maintaining their own well-being.

Looking forward: A call to action

The challenges we face today—workforce shortages, increasing patient complexity, and the need for system-wide transformation—require a strong, unified voice. Now, more than ever, we must stand together to

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The future of medicine: From predictions in 2000 to realities in 2025

In 2000, Dr Cairns predicted what medicine would look like in 2025. Here, he reflects on those predictions.

John A. Cairns, CM, OBC, MD, FRCPC

Reflecting on my bird's-eye view from 2000 of what the next 25 years of medicine might look like [BCM^J 2000;42:241-242], I have observed that several of my predictions have been fulfilled to varying extents, some have not materialized, and some unanticipated developments have assumed importance. The breakneck pace of change has accelerated.

Genomics

Human genome

Shortly after publication of my article in June 2000, Bill Clinton and Tony Blair announced the emergence of a rough draft of the human genome from the Human Genome Project, but it was not until August 2023 that the complete genome was published, somewhat later than many had predicted.¹ Immediate medical applications included development of cancer and other disease therapies directed at various mutations; design of pharmaceutical agents; and

development of genetic testing for predisposition to many disorders, including breast cancer, cystic fibrosis, and hepatic diseases. Research into the causes of a variety of cancers, Alzheimer disease, and more has been facilitated. The availability of genomic information and the potential for its use has given rise to multiple ethical and legal dilemmas, some of which were anticipated, as demonstrated by the allocation of 5% of the Human Genome Project's total budget to address ethical, legal, and social implications.

Precision medicine

Implicit in my 2000 predictions was the development of what has come to be called "precision medicine," an approach that selects therapies based on the detection of certain genes, proteins, or other substances in a potential patient that are likely to influence the patient's response to given therapeutic agents.² Inherent to the strategy of precision medicine is the availability of biomarkers that can be detected in blood or other tissues and used to identify cells with susceptibility to given therapeutic agents. These approaches are now highly developed for the selection of cancer therapies. Whereas traditional chemotherapies are nonselective and toxic not only to malignant cells but also to all rapidly proliferating cells, targeted therapies involve identifying the unique features of cancer cells that help them grow, divide, and spread. These features can then be targeted with specific

therapeutic agents designed to disrupt or block their functions.

Pharmacogenomics

Pharmacogenomics, the study of how genes affect a person's response to drugs, has progressed enormously in the past 25 years.³ For any given drug, some people will respond fully, others only partially or not at all, and still others may experience undesirable, even fatal, side effects. The National Institutes of Health Genetic Testing Registry now maintains a database of laboratories able to test for genes and proteins to allow better targeting of therapies and identify persons at high risk of selected adverse drug reactions. Therapies selected based on pharmacogenetic studies are now in widespread use, and such strategies will multiply as basic research and clinical trials evolve.

Genetic engineering

Genetic engineering, the artificial manipulation, modification, or recombination of DNA or RNA to modify an organism, has been with us since the late 1960s. In 2000, the repertoire of genetically engineered drugs included only a few agents, including tissue-type plasminogen activator, insulin, and human growth hormone. Developments in the last 25 years have been explosive, and there are now huge numbers of such drugs available, as well as many drug delivery systems developed using genetic engineering techniques.

The spectacularly rapid development

Dr Cairns received his MD from the University of British Columbia and did his cardiology and research training at McGill University. He was the chair of medicine at McMaster University (1988–1996) and the dean of medicine at UBC (1996–2003). He received the Order of BC in 2014 and the Order of Canada in 2024.

This article has been peer reviewed.

of mRNA-based vaccines,⁴ which curbed the devastation of the COVID-19 pandemic and could be quickly modified to deal with viral mutations, was possible because of the discoveries of Katalin Karikó and Drew Weissman, who received the 2023 Nobel Prize in Physiology or Medicine. The lipid nanoparticle encapsulation process developed by University of British Columbia scientist Pieter Cullis is an essential component of the vaccines, allowing entry of the mRNA into human cells. This mRNA-based technology promises to offer a whole new family of vaccines, as well as strategies for targeting malignant cells.

Gene editing technologies⁵ allow highly specific changes to be made in the DNA of a living organism. The most recent and promising of these technologies is CRISPR-Cas9, the discovery and development of which led to the award of the Nobel Prize in Chemistry to Jennifer Doudna and Emmanuelle Charpentier in 2020. This technology could be used to modify defective genetic codes in mono- or multigenetic diseases and to treat infectious diseases, autoimmune disorders, and cancer. ClinicalTrials.gov currently lists 60 trials using CRISPR-Cas9 technologies. There are many hurdles to address, including the immunogenicity of the administered cellular materials and a variety of complex ethical issues, but these are likely to be overcome as research surges forward.

Transplantation

I predicted significant progress in human tissue and organ replacement, but progress on this front has been rather slow. The number of annual organ transplants worldwide increased to about 157 000 in 2022⁶ (2936 in Canada),⁷ with a 23% increase from 2009 to 2018, and short-term survival has improved modestly. However, overall success is limited by chronic rejection and the availability of viable organs. In Canada in 2018, 223 people died while awaiting an organ for transplant, and there were 4351 people on the transplant wait list. There has been progress in artificial organ technology, but there has been no long-term survival of a patient

dependent on an implanted artificial organ. Xenotransplantation (the experimental process of transplanting organs across species) has been tried in one approved instance. The problems of rejection, donor infectious agents, and species-specific organ function are the focus of ongoing research.

The transplantation of hematopoietic stem cells obtained from bone marrow, peripheral blood, or umbilical cord blood has been available for many years for treatment of leukemias and lymphomas and for selected postradiation and postchemotherapy cancer patients. More recently, pluripotent stem cells have been recovered from embryonic tissue (the inner cell mass of the blastocyst) and a number of adult tissues, including skin and bone marrow. Differentiated cells in such tissues have also been deprogrammed back to a pluripotent state (induced pluripotent stem cells). Although only hematopoietic stem cell transplantation is currently approved by the US Food and Drug Administration for human clinical use, there are many stem cell clinics marketing unproven stem cell therapies in the US and worldwide. Active research is exploring these therapies for neurodegenerative diseases, diabetes, heart disease, and many other conditions, and it seems likely some of this work will eventually bear fruit.

Health care system

In 2000, I predicted that BC health care would come to be provided in a setting of more planned and all-encompassing models. Dramatic changes began in December 2001, with the consolidation of 52 health authorities into five geographic governing authorities and the Provincial Health Services Authority (PHSA). Each regional health authority is responsible for planning and delivering health care services within its geographic area. The PHSA oversees coordination and delivery of highly specialized services like cancer care and transplantation provincially. In 2013, the First Nations Health Authority was created.

There has been enormous progress in the development and deployment of electronic

health records in BC. The Clinical & Systems Transformation project⁸ is a multi-year project on which Vancouver Coastal Health, the PHSA, and Providence Health Care have cooperated to establish common clinical and process standards (e.g., workflows, order sets, clinical guidelines, integrated care plans) and a common electronic health record system. A common clinical information system (Cerner) has replaced multiple aging systems. Medications are now supplied to the bedside as prepackaged, barcoded, single-unit doses, which can be barcode scanned and administered directly to the patient or resident without additional preparation. As of September 2024, implementation has been completed in most acute and residential care facilities within Vancouver Coastal Health and in PHSA facilities in the Vancouver Coastal Health region.

My prediction regarding improved access to patient medical data has been realized. In 2013, the BC Services Card replaced the CareCard. It can be used to access a variety of BC government and agency services. The Health Gateway app allows BC residents to securely access their health data (e.g., medications, vaccinations, medical visits, hospital stays), along with selected personal nonhealth data held in provincial and federal government repositories. This system can be challenging to the many individuals who are inexperienced or incapable of using modern electronic systems, but it represents a huge advance for those who have these capabilities.

There has been substantial progress deploying electronic health records to individual physicians. Implementation in BC has been facilitated by the outstanding web-based guidance available from the Doctors Technology Office, a joint initiative of Doctors of BC and the provincial government. A further major impediment continues to be Canada's disparate network of 14 essentially independent health care systems (10 provincial, 3 territorial, and 1 federal) and their lack of interoperable electronic health records. In 2001, the federal government established Canada Health

Infoway, an independent, not-for-profit corporation charged with transforming Canada's health care system through digital health. Although progress has been slow, an independent performance evaluation in 2018 reported that Canada Health Infoway has greatly contributed to more timely delivery of health care, increased productivity and interoperability, and improved access to and sharing of information. A 2024 survey of Canadian physicians found that 95% of respondents used electronic health records to enter and retrieve clinical patient notes, a dramatic increase from 39% in 2010, although they experience major challenges using these systems, and burnout is a threat to progress and even sustainability. A November 2024 report⁹ acknowledged significant funding (over \$3 billion to date) and effort but identified poor interoperability of data systems, even within cities and provinces, and emphasized that more commitment and collaboration was required from federal, provincial, and territorial governments to accelerate progress.

Medical education and research

In relation to population, in 2000, BC had fewer medical students and fewer post-graduate trainees (residents) than any other Canadian province^{10,11} and was able to satisfy only 25% of the annual need for new physicians in the province. I predicted that the BC government would begin to take responsibility for educating the physicians needed by British Columbians, and the situation has changed profoundly, beginning in December 2000 with substantial new provincial funding announced to put more doctors, nurses, and other health professionals into the health care system. In spring 2001, the new provincial government committed to double BC's enrolment of medical students (and residents) in a distributed program centred at the University of British Columbia and in partnership with the University of Northern British Columbia and the University of Victoria. The dramatically enlarged and provincially distributed medical education enterprise has become an internationally recognized

model. In 2024, there were 340 students in the first-year medical class (compared with 120 in 2000), and UBC now graduates more MDs annually than any other Canadian university (298 in 2021).¹⁰ Enrolment in Canadian medical schools has almost doubled since 2000.¹⁰

As I predicted in 2000, not only has medical education expanded, but it has also evolved significantly to better equip future doctors for practice. In their first year, medical students begin clinical experiences in doctors' offices and community and hospital clinics. With the new distributed

I predicted that the BC government would begin to take responsibility for educating the physicians needed by British Columbians, and the situation has changed profoundly.

programs, medical students and residents experience real-world settings and build relationships with communities province-wide. Their educational programs are built on problem- and case-based paradigms that feature realistic patients and emulate clinical practice. Accreditation standards require each medical school to commit to addressing the priority health concerns of the population it serves and to demonstrate that its admissions processes, curricular content, and types and locations of educational experiences produce MD graduates who are socially accountable. The UBC Faculty of Medicine recently reviewed its 56 learning cases for appropriateness in issues of equity, diversity, and inclusion, making changes as needed. The demographics of BC's medical students are changing:¹² about 60% of students are women (compared with about 50% in the early 2000s), the mean age has risen to about 25 years, only about 9% have no university degree (27% in 2012), and 57% attended secondary school in

locations other than Vancouver (50% in 2012). Between 1954 and 2000, there were five UBC MD graduates of self-identified Indigenous ancestry. Since implementation of the Indigenous admissions pathway in 2002, there have been more than 120 additional Indigenous MD graduates.

Canada is still trying to recover from cutbacks in medical student enrolment in the 1980s prompted by flawed predictive data that failed to adequately account for population aging, advances in medical therapies and surgical techniques, and changes in the sex distribution and practice patterns of physicians. The ratio of doctors per 1000 population increased from 2.0 in 2000 to 2.7 by 2019, but the OECD average is 3.4, and Canada's ratio was lower than that of every European country included in the rankings.¹³ In 2023, 17% of Canadians did not have regular access to a primary health care provider,¹⁴ and access to specialists and surgical procedures was problematic.

Some of the problems of access to primary care may be alleviated by measures I mentioned in 2000 that are now implemented in BC and several other provinces, including expanded education and practice entry of nurse practitioners and midwives and substantial expansion of the scopes of practice of pharmacists. Alternatives to the fee-for-service model are common in European countries and the US and are increasingly sought by physicians and health care provider agencies. The most recent of many such programs in BC is the Longitudinal Family Physician Payment Model, which was introduced in 2023 to compensate family practitioners for time, patient interactions, and the number and complexity of patients in their practice. It has been taken up by over 800 new family practitioners and is now being emulated by several other provinces.

I also predicted that Canada would commit more national resources to health research. The Canadian Institutes of Health Research was created in 2000, with a budget about four times that of its predecessor, the Medical Research Council. New programs were created in support of health services

research and social, cultural, environmental, and population health research. Major new federal initiatives in support of research personnel (e.g., graduate students, research fellows, faculty) and infrastructure (e.g., the Canada Foundation for Innovation) allowed substantial rebuilding and expansion of Canada's health research endeavors. BC government support of health research was dramatically increased with the creation of the Michael Smith Foundation for Health Research (now Michael Smith Health Research BC) in 2001. Unfortunately, there has been relatively slow growth of federal health research funding since the major increases in the early 2000s. Canada's per-capita federal expenditures on health research are now a fraction of those in the US, and Canada ranks 10th among OECD countries in per-capita federal expenditures.¹⁵

Unanticipated developments

Opioid epidemic

Opioid use disorder is a long-standing social and medical issue that has reached epidemic proportions in recent years, affecting over 27 million people worldwide. The well-known adverse effects of opioid use, along with other controlled drugs, have been dramatically augmented in recent years by the advent of increasingly common fatalities from unregulated drugs. In BC, annual deaths have risen from 270 in 2012 to 2573 in 2023,¹⁶ despite the declaration of a public health emergency in 2016. Efforts to understand and manage the problem of opioid use disorder and toxic drug deaths require ongoing research into its sociological, pharmacological, behavioral, regulatory/legal, and medical aspects. The four pillars of management (harm reduction, prevention, treatment, and enforcement) is a useful descriptive term, but there is currently no general agreement as to which option or combination of options to deploy in any given individual or community.

Medical assistance in dying

As recently as 2015, there was no legal way in Canada for a person with a terminal

illness to obtain medical assistance in dying (MAID). In 2016, federal legislation authorized medically assisted death for adults with reasonable foreseeability of natural death who were suffering intolerably during the dying process. The reasonable foreseeability of natural death criterion was removed in 2021. Between 2016 and 2022, there were 44 958 medically assisted deaths in Canada, 4% of all deaths annually. As of April 2025, MAID cannot be specified in an advance directive (except in Quebec), and it is not available for persons whose sole medical condition is a mental illness or for minors (persons under 18 years), even if they are judged to be "mature."¹⁷ Further legal and legislative changes seem likely in the near future.

Artificial intelligence

Artificial intelligence (AI)—that is, intelligence exhibited by machines, in particular computer systems—has been around since the 1950s, but its evolution has accelerated profoundly since about 2012, and it is being deployed across the breadth of human endeavors. The 2024 Nobel Prize in Physics was awarded jointly to John Hopfield and Canadian Geoffrey Hinton for their foundational discoveries and inventions that enable machine learning with artificial neural networks.

The application of AI is already accelerating the pace of medical research. The 2024 Nobel Prize in Chemistry was awarded in recognition of AI-enabled work on protein structure. Applications of AI to medical practice are already being anticipated by a Doctors of BC committee struck to study the potential of AI to serve the function of a medical scribe. The ethical dimensions of the availability of AI are immense and were stressed by Hinton in his Nobel address.

Summary

The delineation of the human genome and related advances in pharmacogenomics, genetic engineering, and transplantation are being rapidly translated into clinical practice, despite persisting ethical and legal issues that must be resolved.

Although Canada has, on a per-capita basis, substantially increased its complements of physicians in training and in practice and its investments in health research, it still lags behind many OECD countries. There have been many improvements in the organization of BC's health care system and in provincial and federal deployment of electronic health records, although interoperability remains problematic. Canadian medical education programs are evolving to better meet the needs of the population.

Canadian life expectancy at birth rose from 79 years in 2000 to 83 in 2024. Even though many nations face nonmedical determinants of health such as poverty, social disorganization, war, and environmental degradation, from which Canada has been relatively spared, global health data also reveal improved life expectancy at birth, rising from 66 in 1998 to 73 in 2020.

AI has burst into prominence, with its myriad potential benefits to medical research and practice and accompanying ethical and legal challenges.

It seems likely that medical progress will continue to accelerate, perhaps warranting a further update in 2050, although not by me. ■

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is anything to suggest past bacterial endocarditis, prophylaxis is still recommended.

- *S. aureus* is the most common cause of infections of various prostheses, including pacemakers, but it is not a major element of the mouth flora, nor a common agent of transient bacteremia with dental manipulation. In the case of an open abdominal wound with prolonged drainage, the wound is much more likely than an oral source to be the portal of entry.
- If the main concern is about reseeding a pacemaker with *S. aureus*, amoxicillin would not be expected to do very much, because most *S. aureus* is generally resistant to it.

We thank Dr Walter for the question and wish him excellent health!

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strengthen our community, embrace new opportunities, and continue to advocate for the profession. As we mark this milestone, let's recommit to each other and our profession so we can build an even stronger health care system for future generations.

To all our physicians—past, present, and future—thank you for being part of this journey and, even more, for your unwavering commitment. Here's to the next 125 years of making a difference, one patient at a time. ■

—Charlene Lui, MD
Doctors of BC President

Images included on the cover, from left to right:

- Dr Steve Hardwicke with petitions signed by British Columbians protesting the government's actions to impose budget caps and limit doctors' bargaining rights, 1992.
- Academy of Medicine building, home of the BC Medical Association (BCMA) until 1985. Photo courtesy of the College of Physicians and Surgeons of BC.
- BCMA staff member Ms Tanyss Nofle with returned Medical Services Plan Payment Schedules, 1981.
- Members of the BCMA, 1906.
- Dr Ethlyn Trapp, the first female president of the BCMA, 1946.
- Drs Bill Jory and Bill Ibbott present Minister of Health Bob McClelland with a BCMA "Buckle Up & Live" bumper sticker, 1977.
- Indigenous artist s'táməx^w (Rain Pierre) with his artwork, created as a beacon of safety for Indigenous patients and a symbol of culturally safe care that doctors can display in their offices, 2022.

Jennifer Kask, MD, CCFP, FCFP, Tina Nadalini

Getting SAVy about sexually transmitted infection testing

Providing access to self-administered vaginal swabs and informing clinicians and patients about their use led to increased testing for sexually transmitted infections in Island Health.

ABSTRACT

Background: Self-administered vaginal swabs became available at the Island Health outpatient lab in Campbell River and at labs throughout northern Vancouver Island in February 2021. This project aimed to increase the use of the swabs to improve access to testing for sexually transmitted infections.

Methods: Clinicians and lab staff at Island Health lab collection sites on northern Vancouver Island were surveyed to gauge their understanding of self-administered vaginal swabs. Information sessions were provided to enhance their knowledge. Patient satisfaction surveys were also conducted.

Results: At baseline, a median of 117 swabs per quarter were returned to Island Health lab collection sites on northern Vancouver Island. After the swabs became available, the median

increased to a peak of 294 per quarter. Knowledge about the swabs among lab staff and clinicians increased from 33% preintervention to 100% postintervention. Patients preferred the swabs over other testing methods.

Conclusions: Improving access to and providing education about self-administered vaginal swabs led to increased sexually transmitted infection testing at Island Health labs on northern Vancouver Island.

Background

Testing for sexually transmitted infections (STIs) in individuals with female anatomy has historically taken place in a clinician's office using endocervical swabs, often in conjunction with a Pap test. However, the accuracy of using self-administered vaginal swabs (SAVS) to detect chlamydia and gonorrhea is equal to or greater than that of clinician-collected endocervical swabs and first-catch urine tests;¹⁻⁴ the latter may miss up to 10% of chlamydia infections in patients with female anatomy (though it remains the gold standard for STI testing in patients with male anatomy).⁵⁻⁷ BD ProbeTec CT/GC Q^x vaginal swabs (the type used in Island Health) have a sensitivity of 99.3% and 99.5% and a specificity of 98.6% and 99.8% in detecting chlamydia and gonorrhea, respectively.⁸

SAVS also have a lower lifetime cost, because visits to health professionals are reduced.⁹ High levels of patient satisfaction with SAVS have also been reported.^{10,11} Their use is more desirable among those

with aversions to clinician-collected sampling for personal, religious, or cultural reasons, or due to gender identity, ability, or trauma triggers;^{11,12} the swabs are also easier to use than having a pelvic examination performed with a vaginal speculum. The use of SAVS increases accessibility to STI testing for patients with limited access to primary care, such as those in rural locations,¹¹ and increases the chance that routine tests will be completed.¹³

SAVS have been available in Canada since at least 2003.⁴ They have been available in sexual health clinics and clinician offices on northern Vancouver Island for some time, but prior to February 2021, they were not available at the Island Health outpatient lab in Campbell River—the largest community on northern Vancouver Island and the referral centre for several outlying communities—or in other northern Vancouver Island sites. As a result, patients could self-collect a vaginal specimen only at a clinician's office, even if they had already had a virtual or telehealth visit with their clinician. In contrast, a clinic visit is not required for first-catch urine testing; the requisition can be sent directly to the lab, where the patient provides the sample. Requisitions for SAVS can either be sent directly to the lab or be given to the patient. Patients can collect the specimen at the lab or take the swab home and then return the sample to the lab [Figure 1].

During the pandemic, clinicians were unable to conduct STI testing during clinic closures due to COVID-19 outbreaks.

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Even though SAVS were available and the patient did not need a clinician to collect a vaginal sample, the Island Health outpatient labs on northern Vancouver Island did not have a protocol for patients to self-collect a sample—only the less sensitive first-catch urine testing was available. This quality improvement project was conceived to bridge this gap in care. The aim was to increase the number of SAVS processed through the Island Health outpatient labs so that STI testing could be conducted in a timely, efficient, accessible, and cost-effective manner.

Methods

The project was submitted to the Island Health Quality Improvement Registry. Because it was a quality improvement project, it was deemed exempt from a formal research ethics board review.

The intervention took place within seven Island Health lab collection sites on northern Vancouver Island: Campbell River, Quadra Island, Port Hardy, Alert Bay, Port McNeill, Port Alice, and Gold River. All SAVS specimens were processed in a central Island Health site in Victoria.

The number of vaginal swabs received quarterly at the Island Health outpatient labs was analyzed from 1 January 2019 to 31 December 2023.

Clinicians and lab staff were surveyed to gauge their understanding of the accuracy and acceptability of SAVS. The survey link was sent via email. The results were used to develop information sessions to raise awareness of the recent availability of SAVS at the labs. The sessions were conducted in April and May 2021, and a follow-up survey was sent by email.

Patient surveys were also made available in specimen collection areas via posters with a QR code. All survey responses were voluntary and anonymous and were collected using SurveyMonkey.

The results of the clinician and lab staff surveys and patient satisfaction surveys were reviewed by the principal investigator.

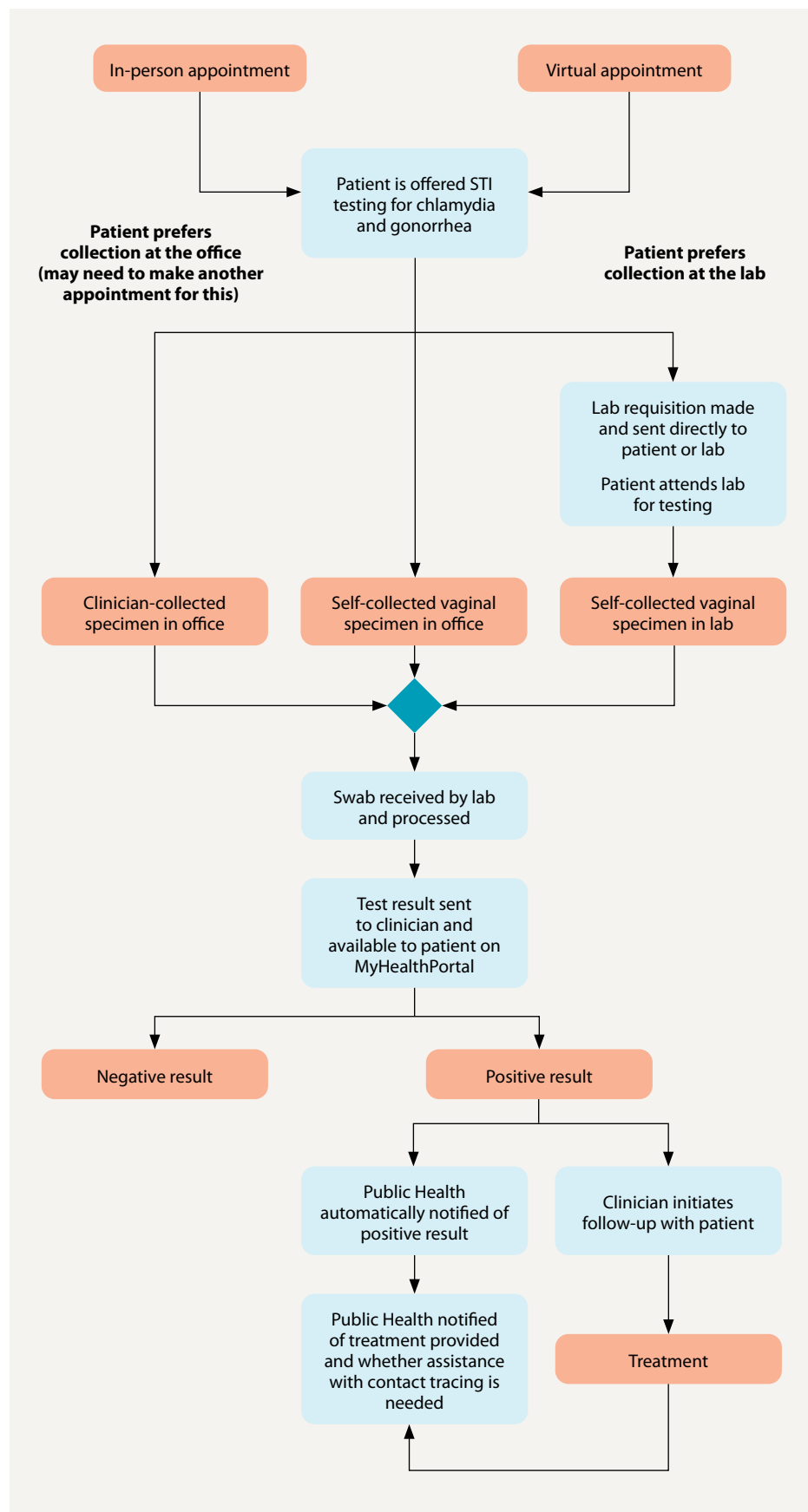


FIGURE 1. Patient pathway for sexually transmitted infection (STI) testing.

Results

The number of vaginal swabs received at the Island Health outpatient labs on northern Vancouver Island increased from a median of 117 per quarter from 1 January 2019 to 31 March 2021 to 184 in the first 3 months after they were made available. A further increase to a median of 294 per quarter occurred from 1 July 2021 to 31 December 2023 [Figure 2]. The number of swabs received remained high, even though no further clinician education or new public health information was provided.

In initial surveys of lab staff ($n = 9$), 33% were familiar with SAVS, and 12.5% believed that SAVS were as accurate as clinician-collected specimens. The postintervention surveys ($n = 5$) indicated that knowledge about SAVS had increased: all respondents reported familiarity with their use.

Patient surveys ($n = 5$) indicated that patients preferred SAVS over other STI testing methods. All respondents reported that the collection instructions were easy to understand and that self-collection of samples was easy.

Discussion

Having SAVS available at the Island Health outpatient labs led to an increase in the number of STI tests conducted. This is particularly relevant following a change to the BC Cancer Cervical Cancer Screening

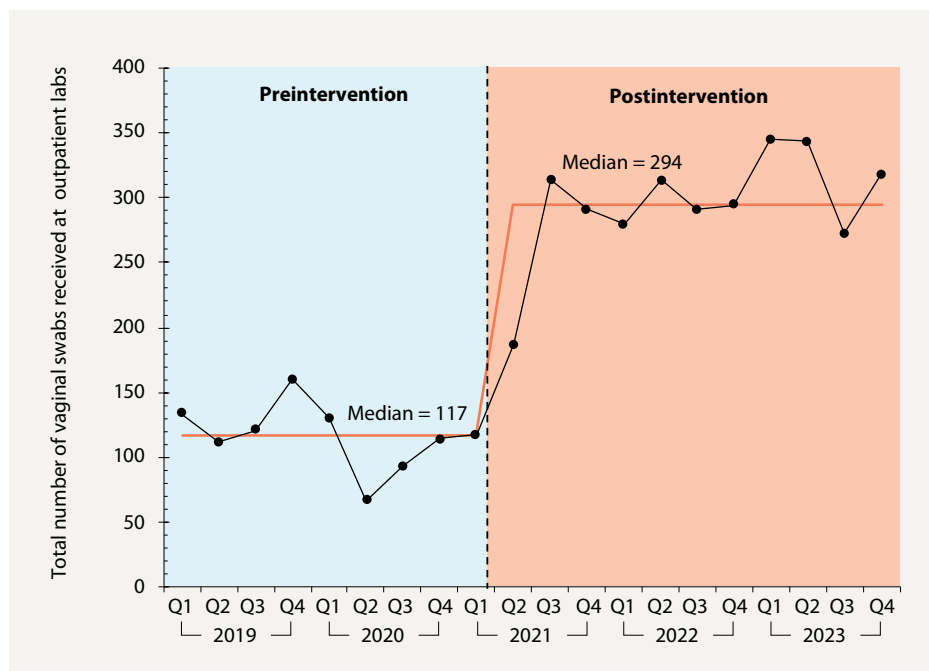


FIGURE 2. Number of vaginal swabs received at Island Health outpatient labs on northern Vancouver Island (January 2019–December 2023). The dashed line represents the month (February 2021) that SAVS were made available at the labs.

Program that has resulted in fewer patients having a clinician-collected cervical screen, which is when clinicians commonly conduct STI testing.

Increased testing and identification of STIs leads to timelier and improved follow-up and treatment,^{11,14} which reduces the risk of complications and the spread of infection.¹¹

The use of SAVS has also led to a significant increase in rescreening and follow-up compared with clinician-collected specimens,¹⁵ and patients who used SAVS said they would routinely self-test if SAVS were widely available.¹⁶ Barriers to STI testing in clinical settings could be alleviated by making SAVS available at testing labs and through mail-in services and remote outreach programs.⁷

The BCCDC operates the GetChecked-Online program, with testing available at 17 LifeLabs locations across BC.¹⁷ An individual can register online, print a lab form, present it at a participating lab, get tested at the lab, and then get the results online.¹⁷ BCCDC clinics in Fraser Health and Vancouver Coastal Health also offer

SAVS through the SmartSexResource.¹⁸ However, access to SAVS is still limited. Northern Health and Interior Health offer SAVS at clinics but do not provide them at testing labs.^{18–20} Additionally, in some communities, it may be difficult to access a clinician to receive STI testing (a laboratory requisition is currently required for testing to be done at the Island Health outpatient labs). Therefore, implementation of SAVS programs and education about SAVS would prove useful [Figure 3]. Further research could examine the possibility of making SAVS available in pharmacies to improve accessibility and provide effective testing and treatment.²¹

Study limitations

It was impossible to know how many swabs were being collected at labs versus clinician offices. However, this is likely of limited significance. The increase in the use of SAVS may have been due to increased access to care as COVID restrictions to in-person care were lifting.

We did not determine whether a positive swab for chlamydia or gonorrhea led



FIGURE 3. Talking points and simplified instructions created for the use of self-administered vaginal swabs.

STI = sexually transmitted infection

to follow-up treatment. However, in BC, chlamydia and gonorrhea are reportable STIs, and the ordering clinician is responsible for follow-up.

Conclusions

Improving access to and providing education about SAVS led to increased STI testing at Island Health labs on northern Vancouver Island. The acceptability of SAVS among patients made them the easier option for STI testing, and ordering tests was easier because the clinician could order them during a virtual visit.

Other health authorities and private labs should consider a similar expansion of services to meet the needs of patients. First-catch urine testing, the gold standard for STI testing in those with male anatomy, is widely available at labs in BC. Making SAVS equally widely available for those with female anatomy would improve the equity of health services. ■

Funding

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Competing interests

None declared.

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Road to recovery: A strategy to meaningfully address British Columbia’s substance use system of care

A call on communities to support this coordinated, accessible, and evidence-based approach for the first step toward recovery.

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The need for a coordinated substance use system of care in British Columbia and beyond has never been more urgent. Since 2016, almost 50 000 Canadians have died from an opioid-related poisoning.¹ BC has been particularly affected, having the highest rates of opioid-poisoning deaths and hospitalizations for opioid and stimulant poisonings compared with the rest of Canada [Table].¹

This burden of disease is not restricted to criminalized substances; alcohol misuse is also becoming a growing concern. Between 2015 and 2016, approximately 77 000 hospitalizations were attributable to alcohol-related harms (compared with 75 000 for heart attack).² While there have been initiatives to address the devastating consequences of substance use across the country, hospitalization and death rates continue to rise unabated.^{1,2}

While reasons for the rise of substance-related hospitalization and death rates are

multifactorial, in BC, the key contributors are the toxic nature of the drug supply combined with the siloed and fragmented addiction treatment system.³ In 2022, the BC Coroners Service Death Review Panel and BC’s Select Standing Committee on Health urgently called for the creation of a coordinated substance use system of care.^{4,5} Frontline health care providers agreed and highlighted two critical aspects of BC’s addiction treatment system that required urgent attention:

- An increase in the capacity to provide on-demand addiction care by trained health professionals.
- A reorganization and coordination of existing clinical services to ensure individuals with a substance use disorder could be seamlessly supported throughout their recovery.

To accomplish this, in a collaborative approach, the provincial government (specifically, the Ministries of Health and

TABLE. Crude rates of opioid-poisoning deaths and hospitalizations for opioid and stimulant poisonings in BC compared with the rest of Canada (per 100 000 individuals), January to June 2024.¹

	Crude rates	
	Canada	BC
Opioid-poisoning deaths	18	42
Hospitalization: opioid poisoning	18	34
Hospitalization: stimulant poisoning	12	10

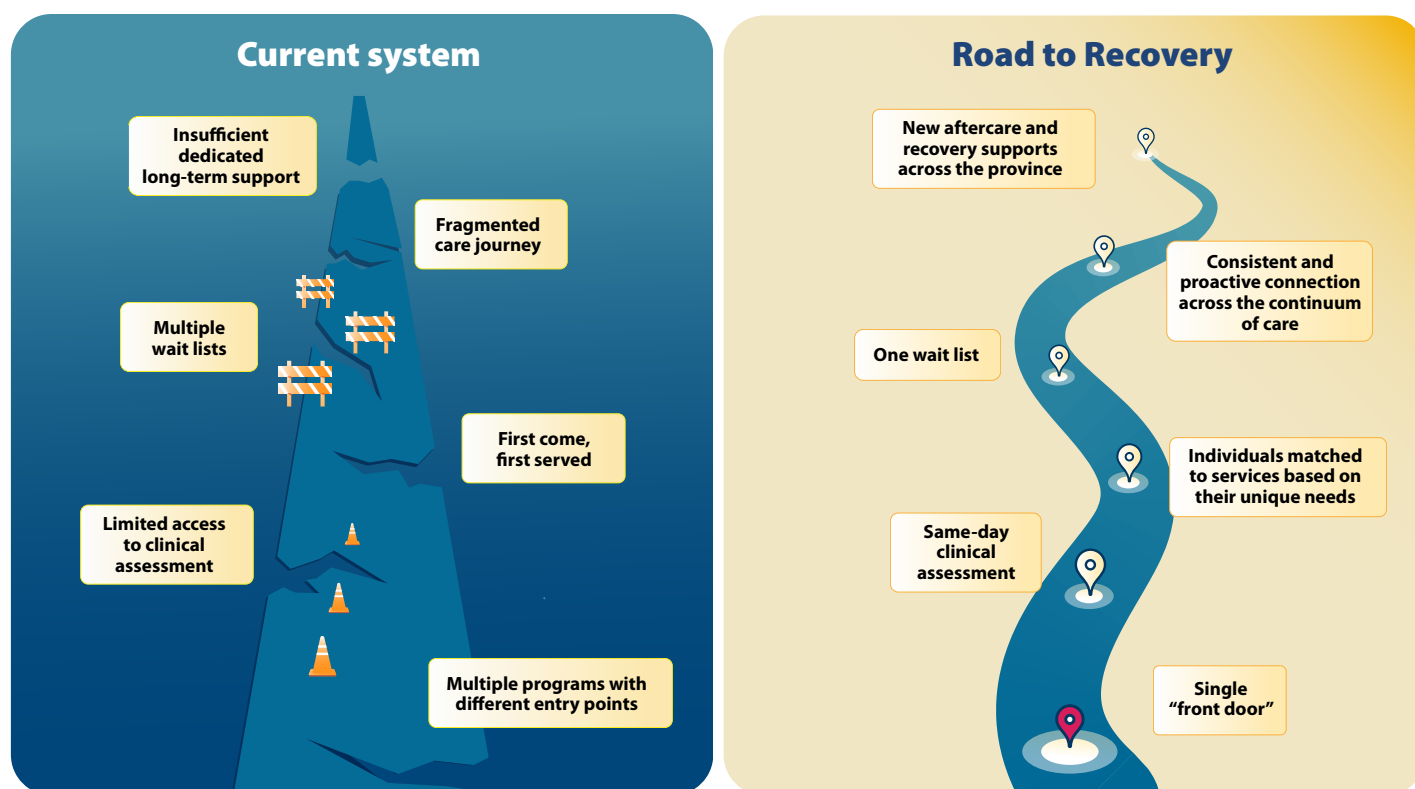


FIGURE. Key aspects of BC's current recovery-oriented system of care compared with the Road to Recovery model of care being implemented in the Vancouver Coastal Health Authority since September 2023. Source: British Columbia's provincial addiction recovery treatment and support network.

Mental Health and Addictions) and front-line health care providers in one health authority (a partnership between Providence Health Care and Vancouver Coastal Health [VCH]) began implementing a novel model of substance use care in September 2023. The Road to Recovery (R2R) initiative⁶ addresses key aspects of BC's recovery-oriented system of care to ensure that individuals can access on-demand and evidence-informed substance use services [Figure].

To increase capacity, almost 100 new addiction treatment beds will be added from 2023 to 2027, with 25 beds allocated to withdrawal management (i.e., detox) at or surrounding St. Paul's Hospital (an acute care hospital near Vancouver's Downtown Eastside, an area that experiences high rates of poverty, homelessness, mental illness, and substance use). The advantages of this approach include:

- Medically triaging individuals at highest risk for severe, complicated

withdrawal (e.g., severe alcohol use disorder) to receive care in a higher-acuity medical facility (versus a community detox setting).

- Not occupying an acute care medical bed exclusively for withdrawal management.
- Admitting patients under the care of an interdisciplinary team with expertise in addiction medicine.
- Potentially linking individuals—many of whom may not otherwise engage with the health care system—to hospital-based general medical or surgical care (e.g., infectious disease or cardiac consultation for existing comorbidities).
- Offering primary prevention (i.e., screening) to a patient population that may be unattached to primary care services.
- Rapidly transferring individuals to a more medically supportive setting (i.e., intensive care) in a scenario of clinical decompensation.

An additional 20 net new transitional care (i.e., nonmedical) beds will also be created on the hospital's campus. These beds will operate similarly to existing contracted beds in the region to facilitate easy transfers for individuals who may have stabilized from a withdrawal management perspective (either inpatient or outpatient) or who may not warrant a medical withdrawal management bed but require stabilization (e.g., stimulant use disorder, unstably housed, intensive outpatient treatment).

Finally, 50 additional recovery beds will be created near St. Paul's Hospital, where individuals can focus on their recovery goals over a period of 3 to 6 months.

While increasing capacity is critical to meet the growing demand for substance use services in the VCH region, the more impactful work will result from optimizing efficiency in and between existing regional substance use services. Significant collaborative efforts are already underway to optimize access and coordinate existing

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VCH clinical services (e.g., medical withdrawal management, transitional care beds, bed-based recovery, aftercare supports) via the R2R initiative. R2R focuses on:

- Developing Access Central, the single point of access for all substance use services in the VCH region.
- Providing on-demand (i.e., same-day) addiction services virtually or in person.
- Ensuring an interdisciplinary team is available to support individuals when they access substance use care.
- Standardizing initial clinical assessment and individual care plans.
- Medically triaging individuals to ensure they receive the right level of care or acuity to manage their withdrawal syndrome (i.e., immediately transitioning those individuals at high risk for severe, complicated withdrawal to a medical withdrawal management bed and linking others to longitudinal, outpatient addiction services).
- Developing a single, centralized, regional wait list for access to bed-based substance use services (e.g., withdrawal management, transitional care beds, bed-based recovery services).
- Implementing proactive follow-up strategies to continuously engage and support individuals at transition points along their recovery.

The region's commitment to truth and reconciliation with Indigenous Peoples is embedded in the R2R model of care. This commitment takes direction from the calls to action of the Truth and Reconciliation Commission of Canada, specifically to recognize the value of Indigenous healing practices and use them in the treatment of Indigenous patients; the calls for justice of the National Inquiry into Missing and Murdered Indigenous Women and Girls, a call for Indigenous-led health and wellness programs; and the *In Plain Sight* report, BC's investigation into racism in the health care system, which speaks of hardwiring Indigenous cultural safety into health care and increasing access to culturally safe mental health and wellness and substance use services.

Indigenous patients make up approximately half of all admissions to the R2R unit at St. Paul's Hospital. R2R has developed a collaborative, innovative, and multi-dimensional approach with the Indigenous Wellness and Reconciliation team. It includes Indigenous cultural safety education for providers, offers cultural services via Indigenous wellness liaisons, and shares data governance of Indigenous patient data generated within R2R.

In July 2024, the provincial government announced funding to implement and expand R2R to all regional health authorities.⁷ This will advance progress toward creating a provincial model of substance use care, similar to what exists for the management of other chronic, relapsing diseases (e.g., renal care, cardiac care). Coordination of service delivery at the regional level will allow for common standards of care, access to high-quality evidence-based addiction care in any community, and, most importantly, the ability for care plans to follow a patient if they move within BC's health authorities.

R2R offers a coordinated, accessible, and evidence-based approach for those looking to take their first step toward recovery, however that may be defined. While additional strategies to curb the ongoing toxic drug crisis, such as access to a safe drug supply, are still needed, we call on all communities across BC and beyond to support this innovative model of substance use care to ensure our loved ones can access the care they so deserve. ■

Competing interests

None declared.

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provincial government has provided annual operating funding, and BC's philanthropic community has helped fund capital refurbishments and start-up costs. Additionally, a huge team of operational and clinical leaders from Providence Health Care and its Indigenous Wellness and Reconciliation team, the Vancouver community, and the VCH Regional Addiction Program have worked tirelessly to implement R2R in the VCH region.

Last, the authors thank the individuals with lived and living experience of substance use and their loved ones for the abundance of inspiration and motivation they have provided to enact systemic change to improve substance use service delivery across the region.

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Papapalooza: A low-barrier community-based cervical cancer screening initiative

A study to determine whether a community-based pop-up event model is an acceptable strategy among patients to improve access to cervical cancer screening.

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ABSTRACT

Addressing barriers to cervical cancer screening as a public health priority in British Columbia requires innovative approaches. Community-based health promotion initiatives like Papapalooza connect the public with low-barrier cervical cancer screening and accessible health education, offering inclusive, celebratory, and trauma-informed Pap test experiences through pop-up events.

To determine whether patients support Papapalooza as a strategy to reduce screening barriers, we administered 354 pre-Pap surveys and 309 post-Pap surveys to 533 Papapalooza attendees at five events held between March and June 2023. Identified barriers included inaccessible primary care, provider-related factors, and personal factors. Surveys showed

increased knowledge and comfort accessing and understanding the importance of screening, with 93.8% of post-Pap survey participants “very likely” to attend another Papapalooza.

Community-based health promotion is an acceptable means of connecting patients with important screening, while creating meaningful opportunities to enhance health literacy.

Cervical cancer deaths are preventable, thanks to advances in the human papillomavirus (HPV) vaccine and population-based cervix screening programs. However, approximately 1300 people in Canada are diagnosed with cervical cancer yearly, with roughly 400 of these diagnoses leading to death.¹ While routine cervical cytology screening is recommended every 3 years, or HPV screening every 5 years, for people with a cervix who are aged 25 to 69, 37% of those diagnosed with invasive cervical cancer in Canada between 2011 and 2013 were not up to date on screening.²

British Columbia operates a publicly funded cervical cancer screening program. Previously, this included Papanicolaou (Pap) cytology testing, though recent advancements to the screening program, liquid-based cytology, and HPV self-screening aim to increase capacity for testing and mitigate access barriers. Despite these advancements, inequities and access barriers persist. Notably, individuals from equity-deserving

populations (e.g., 2SLGBTQIA+, those of low socioeconomic status, those who live in rural communities) continue to experience barriers to culturally safe and trauma-informed screening.³ The COVID-19 pandemic and primary care crisis have further exacerbated these inequities, leading to lower screening rates and increased mortality.^{4,5}

Community-based cancer screening events such as cultural gatherings, charity runs, and health fairs can circumvent these barriers.⁶ They aim to attract large numbers of people, increase health literacy, and provide culturally and linguistically accessible health care.^{6,7} Studies suggest that community-based cancer screening events positively influence attendees’ decisions to participate in screening.⁶

Background

Papapalooza is a community-based pop-up cervical cancer screening initiative that aims to improve access for underserved BC populations. A secondary intention is to enhance health literacy related to preventive care. Events embody a Pap party, with colorful decorations, snacks, and music. Five Papapalooza events were held across BC in 2023. Patients had 10- to 15-minute appointments to complete the exam and receive education from physicians. At least one physician at each event had training in trauma-informed care. Patients were

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provided with brochures outlining the BC Cancer guidelines and were referred to the BC Cancer website for further information. All attendees were informed of their results, and positive tests were followed by respective Papapalooza host clinics.

This study's purpose was to determine whether the Papapalooza community-based pop-up event model is an acceptable strategy among patients to improve access to screening.

Methods

Ethics approval for this study was obtained through the University of British Columbia Research Ethics Board (H22-03798). Pre-Pap and post-Pap web-based Qualtrics surveys were administered at five Papapalooza events held between March and June 2023 in Nanaimo, Victoria, Vancouver, Kelowna, and Prince George. Questions addressed barriers to accessing Pap tests, knowledge of cervical cancer screening, and perspectives on the event. Surveys included multiple-choice, short-answer, and Likert-scale questions.

Events were promoted on social media [Figure 1], in newspapers, and on the radio. People were eligible to attend Papapalooza if they were 25 to 69 years of age, due for a Pap test, and unable to access screening through alternative means. All Papapalooza attendees were invited to complete the surveys. Participants completed an informed consent form and self-administered the surveys. All responses were anonymous. No remuneration was offered for participation.

Inductive qualitative analysis of short-answer responses was performed by three study team members. All three reviewers independently coded a randomly selected sample of 10% of responses. The research team, including two members who did not participate in data analysis, reviewed the preliminary analysis, generating a list of codes based on commonly identified themes. Analysis of the remaining data set was performed independently by three reviewers, and final codes were assigned based on agreement by at least two out of

three reviewers. Quantitative analysis of multiple-choice and Likert-scale questions was performed using Microsoft Excel.

Results

All 533 Papapalooza attendees were eligible to participate in the event. Of those, 354 patients (66.4%) participated in the pre-Pap survey, and 309 patients (58.0%) participated in the post-Pap survey. Of the 354 pre-Pap survey participants, 45 attended the event in Nanaimo, 40 in Kelowna, 61 in Prince George, 90 in Victoria, and 118 in Vancouver.

The majority of pre-Pap survey participants (74.6%) had received at least one Pap test previously. Of those, 17.7% had their

previous Pap test within the recommended screening interval. Of the 354 pre-Pap survey participants, 64.1% responded that a health care provider had discussed the importance of cervical cancer screening with them. When asked why their screening was not up to date, most pre-Pap survey participants (65.1%) reported that they did not have a primary care provider. However, even participants with a provider reported challenges: "Very difficult to book appt. Only does [Paps] on certain day of the month." "My [doctor] is out of his office frequently and there are very long wait lists to see him." The COVID-19 pandemic was also frequently mentioned: "Covid made walk-in clinics a nightmare."

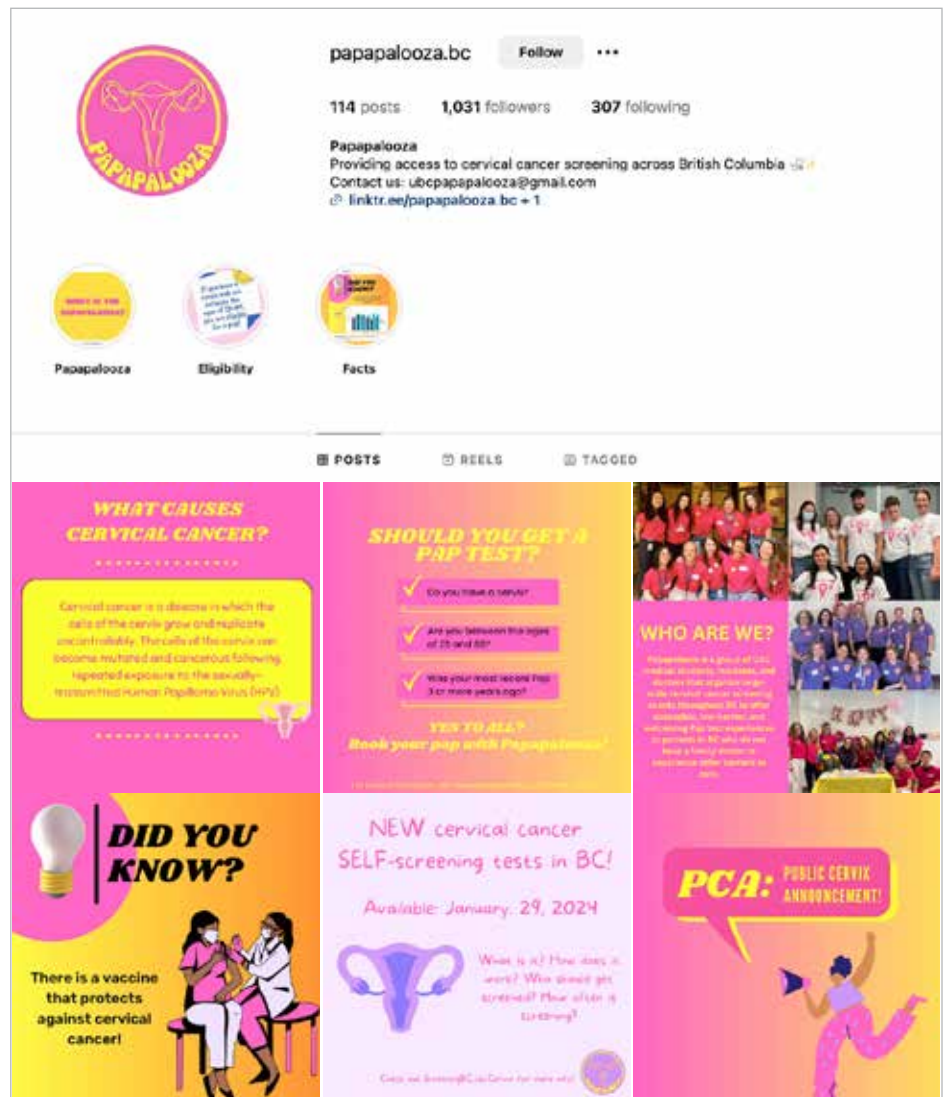


FIGURE 1. Papapalooza Instagram profile screenshot.

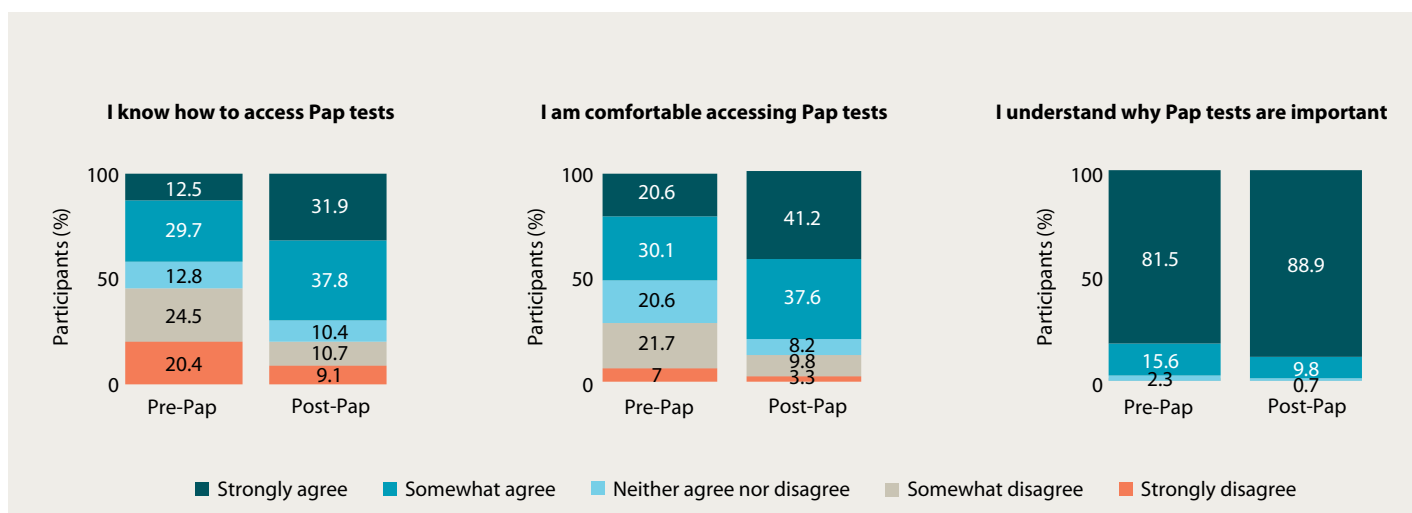


FIGURE 2. Pre- and post-Pap test assessments of participants' knowledge of and comfort accessing Pap tests and the perceived importance of Pap tests.

Many pre-Pap survey participants reported feeling uncomfortable with their primary care provider performing Pap tests: "Male family doctor and I prefer a female practitioner for a [Pap]." "Don't know him well enough to have a [Pap] done by him." "I was a sex worker for 10 years and [am] pretty shy about finding the right doctor to talk to about it."

Unique barriers were shared by certain populations, such as those who were new to BC, lived in remote communities, or had a history of medical trauma: "I'm waiting for my Permanent Residence, so I don't have a family doctor and I can't leave the country." "[GP is] more than 1 hour away." Another participant shared their history of "violation of position of power by doc in office."

Personal factors like "never getting around to it" and lack of child care were reported barriers. Of the pre-Pap survey participants, 12% reported not knowing when their next Pap test should be: "Had a couple abnormal [Paps] but was not followed up with." "I was not reminded I was due." Other participants shared misunderstandings of cervical cancer screening recommendations: "I have [only] one partner." "My family doesn't have cancer in the family."

Before the event, only 12.5% of pre-Pap survey participants strongly agreed that

they knew how to access Pap tests, and only 20.6% strongly agreed that they felt comfortable accessing Pap tests, despite 81.5% strongly agreeing that screening was important [Figure 2]. After attending Papapalooza, post-Pap survey participants demonstrated a global increase in knowledge, comfort, and perceived importance of screening [Figure 2].

In the post-Pap survey, participants described the event as empowering and inclusive, with an uplifting environment: "Positive space, women supporting women." "I liked the . . . celebration." Participants also appreciated the educational nature of the event: "Informative [. . .] before, during, and after."

Participants commented on their positive experiences with Papapalooza providers: "The doctor was very kind, understanding and informative." "Approachable and made me comfortable." "Explained all the steps that were going to happen." "Gained my consent multiple times throughout the exam."

Participants described the event as accessible, noting convenience, efficiency, and availability of appointments: "Appreciated that it was fast and efficient, and the appointment happened on time, allowing my schedule for the day to stay on track."

Overall, 93.8% of post-Pap survey participants indicated they were very likely to

attend another Papapalooza or community-based health care event.

Conclusions

This study demonstrates that community-based health promotion events like Papapalooza are an acceptable strategy among patients to improve accessibility and increase knowledge of and participation in cervical cancer screening. An overarching theme explaining why patients attended Papapalooza was a lack of accessible primary care. Innovative community-based events like Papapalooza can reconnect patients with low-barrier screening, given the ongoing BC primary care crisis.

Many pre-Pap survey participants described avoiding screening due to discomfort with their primary care provider, demonstrating the importance of provider-patient rapport. Some appreciated that their Papapalooza provider was female, with several reporting that lack of access to a female provider was a barrier. While the literature on Pap provider gender preferences is inconclusive, our results demonstrate that providers' gender identity factors into some patients' decision to access screening.^{8,9}

Many patients, particularly those from equity-deserving groups, have experienced sexual and medicalized trauma, leading to heightened anxiety and shame around gynecologic procedures and reduced engagement

with cervical cancer screening.^{10,11} Post-Pap survey participants indicated that a comfortable and inclusive environment encouraged participation from patients who might otherwise feel excluded from this care. Anyone interested in hosting similar events should aim to preserve this environment by practising trauma-informed care, ensuring consent and clear communication throughout the exam, and prioritizing patients' dignity.

Several pre-Pap survey participants' responses reflected their misunderstandings regarding cervical cancer screening and a desire for greater health education. The literature suggests that cervical cancer screening rates more than double after educational interventions.¹² We aimed to provide low-barrier education through social media, a take-home brochure, and discussions with physicians. Our results emphasize patients' desire for and the importance of this education as an intrinsic part of routine preventive care.

We acknowledge that the primary means of recruitment for our study was through social media, which may skew results toward younger demographics. Additionally, event attendees dissatisfied with their experience may have opted out of the survey, leading to response bias.

Additionally, our events occurred before the introduction of HPV self-swabs, which now mitigate many of the access and provider-related barriers. Nonetheless, provider-collected HPV swabs and Pap tests remain essential for many patients,

including people with a history of atypical screening results or positive self-swabs, those with disabilities or no fixed address, and anyone who would benefit from an in-person exam.

This study demonstrates that Papapalooza is an acceptable community-based cervical cancer screening event. Further engagement with providers and communities will help define how similar events can best serve the needs of our population. ■

Competing interests

None declared.

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Dr. Lawrence Yang
Family Doctor, Surrey

Health Data Coalition

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Physicians: Does WorkSafeBC have your correct phone number and address?

Scenario 1: You request that a WorkSafeBC medical advisor call you to discuss a patient's claim, and the medical advisor calls you on your personal cellphone. When you ask why, they tell you that is the phone number listed with your Physician's Report (Form 8/11) in WorkSafeBC's electronic records system. During the conversation, you also learn that the address listed with your Form 8/11 is not the address of the clinic where you saw this patient.

Scenario 2: You receive a cheque from WorkSafeBC for services provided to a patient with a work-related injury and are surprised that the cheque arrived at your home address instead of your place of business.

Why would these scenarios happen? The answer lies in how your contact information is shared between Health Insurance BC, the College of Physicians and Surgeons of British Columbia (CPSBC), and WorkSafeBC.

WorkSafeBC receives your contact information from Health Insurance BC

Health Insurance BC handles the registration of all health care providers in BC, as well as payment of medical and pharmacy claims. It also assigns you a Medical Services Plan (MSP) practitioner number and payee number(s). These unique identifiers play a crucial role in your ability to be compensated for your services.

Health Insurance BC shares key information with WorkSafeBC and the CPSBC,

including the contact information you provide for your practitioner number and payee number(s). It is important to verify that the contact information associated with your practitioner number and payee number(s) is correct and to know which organization to contact when you need to update your information: the CPSBC or Health Insurance BC (MSP).

To learn how to update your contact information, contact the CPSBC (www.cpsbc.ca) or MSP (www2.gov.bc.ca/gov/content/health/practitioner-professional-resources/msp/contact-us).

What this means for billing WorkSafeBC

Physicians bill WorkSafeBC through the Teleplan system, a tool for electronic billing. WorkSafeBC then processes payments to Health Insurance BC, which in turn pays you according to the payment method you have set up. This process ensures you are compensated accurately and promptly for your work.

When you are invoicing WorkSafeBC, it is best practice to use a payee or practitioner number with the appropriate clinic's phone number and address associated with it, not one that has a personal phone number or address associated with it.

Where WorkSafeBC mails manual payments

In certain cases, WorkSafeBC may need to process a manual payment. If this happens, you will receive a cheque by mail at the address linked to your payee number. You can elect to have the money sent via electronic funds transfer (EFT) instead, but you will need to share your direct deposit details

with WorkSafeBC directly, either by calling 1 844 276-3344 or submitting a Request for Direct Deposit in Canada (via Electronic Funds Transfer) – Provider (Form 19D1), available at www.worksafebc.com.

WorkSafeBC cannot update your payee or practitioner contact information, but we can update our manual payment method from cheque to EFT, if that is what you prefer. We can also let you know what contact information we have on file for you so you can determine whether you need to change it. Call WorkSafeBC Payment Services at 1 888 422-2228 to find out.

What happens when you submit a Physician's Report (Form 8/11)

When you complete a Form 8/11, there are no fields for address or phone number, but there are fields for payee and practitioner number. When WorkSafeBC receives your form, our electronic system auto-populates the address(es) and phone number(s) linked to your payee and practitioner number. This information is added to our electronic records, so please ensure it is your clinic contact information.

Keeping payee and practitioner information updated

By keeping your MSP payee and practitioner information updated, including your address and phone number, you can help WorkSafeBC contact and pay you appropriately. ■

—**Bal Hannay**
Supervisor, Health Care Operations,
WorkSafeBC

—**Aveet Chand**
Manager, Health Care Business Solutions,
WorkSafeBC

What you need to know about California serogroup viruses

What are California serogroup viruses?

California serogroup (CSG) viruses were first discovered and isolated in 1943 from *Aedes melanion* mosquitoes collected in Kern County, California.¹ Human cases of CSG virus infection were initially reported in the same area, followed by sporadic cases across the US and Canada. In 2024, BC identified the first occurrence of a small cluster of snowshoe hare virus encephalitis cases in the Sea to Sky corridor, prompting renewed attention to the virus.

CSG viruses are mosquito-borne bunyaviruses that belong to the *Orthobunyavirus* genus, which are enveloped viruses that present three distinct, negative-sense RNA genomes. There are approximately 170 viruses in this genus, encompassing 129 species and 19 serogroups, including CSG. The CSG serogroup includes 17 viruses, of which the most common pathogenic strains in North America are snowshoe hare virus, Jamestown Canyon virus, and La Crosse virus.²

Despite reports of sporadic cases throughout Canada for several years, these viruses have historically received limited attention. The epidemiology has evolved, and CSG viruses are now recognized as the second-most-common cause of arbovirus-associated neurological disease in North America.^{3,4} The most prevalent CSG viruses circulating in Canada are snowshoe hare virus and Jamestown Canyon virus, which have been identified from coast to coast, with the highest

frequency observed in Quebec, based on surveillance data.⁵

How are CSG viruses transmitted?

CSG viruses are transmitted to humans by *Aedes*, *Culiseta*, and *Anopheles* mosquitoes, which have wide geographic ranges across North America. These viruses circulate from mosquitoes to mammals, including squirrels, rabbits, and deer, and then back to mosquitoes. Through this cycle, horses, sheep, and humans may become infected as incidental hosts. Implicated mosquitoes can transmit CSG viruses to their offspring (a process known as transovarial transmission), which makes the virus more challenging to eradicate once established in a geographic area.

What is the clinical presentation?

CSG infection is typically asymptomatic. For individuals who develop symptoms, the incubation period of California encephalitis is usually 3 to 7 days. An early symptomatic phase lasting 1 to 4 days may manifest as fever, chills, nausea, vomiting, headache, lethargy, and/or abdominal pain. Neuro-invasive presentations are rare and cannot be differentiated clinically. Thus, CSG virus infection is especially important to consider in individuals presenting with a clinical syndrome of aseptic meningitis/encephalitis, where the conventional first-line cerebrospinal fluid testing is negative, including culture, viral, and multiplex polymerase chain reaction (PCR) testing during transmission season (from May to October).

How do I test for CSG viruses?

In BC, laboratory diagnosis of CSG viruses is available through the BCCDC Public Health Laboratory by send-out testing. Both serology and molecular tests (PCR) are available; however, serology is preferred given higher sensitivity of testing.

For individuals presenting with signs and symptoms that are clinically consistent with CSG viruses:

- Serology* (preferred):
 - Serum (7–10 mL): should be collected as an acute serum sample, followed by a convalescent sample 10 to 14 days later, in a pink- or gold-top tube, and requested as relapsing fever serology.
 - Cerebrospinal fluid (1–2 mL): should be collected in each of two tubes, without preservatives. These samples should be kept at 4 °C or frozen for transport.
- * Testing needs to include, at a minimum, paired serum samples (acute and convalescent) or paired acute serum and cerebrospinal fluid samples, if indicated.
- Molecular testing (performed only for acute illness and preferably during the febrile period):
 - Serum (7–10 mL): preferred to be collected in an EDTA tube.
 - Other sample types: testing on cerebrospinal fluid and plasma may also be considered.

Where do I send the specimen?

All samples should be sent to the BCCDC Public Health Laboratory using the Zoonotic Diseases & Emerging Pathogens Requisition. Include the patient's date of onset of illness and mosquito bite and/or travel history. Contact the BCCDC microbiologist on call with any questions related to testing.

What are the reporting requirements for suspected or confirmed cases?

Cases of encephalitis/meningitis and emerging illnesses or clusters of infections are reportable to the local medical health officer in BC. A more detailed investigation

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

of cases will be undertaken by Public Health to increase understanding of the clinical picture and epidemiology in BC.

For updated information on CSG viruses and ongoing surveillance results, please visit www.bccdc.ca. ■

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Attn: BC Doctors

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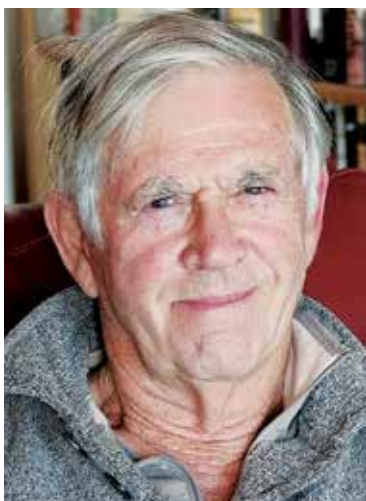
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Obituaries

We welcome original tributes of less than 700 words; we may edit them for clarity and length. Email obituaries 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 Bryan Wiggins
1939–2025

With great sadness, we announce the passing of Dr Bryan Wiggins of Nanaimo, BC, on 10 March 2025 at age 85. Bryan was born on 1 June 1939 in Marton, New Zealand, to Jean Paterson Wiggins and Francis Vincent Wiggins.

A lifelong scholar and adventurer, Bryan attended the School of Physiotherapy at the University of Otago in Dunedin, New Zealand, from 1963 to 1965. He continued his medical studies in London, England, from 1968 to 1975, earning his MD from Middlesex Hospital Medical School at the University of London, where he was recognized with prizes in surgery, anatomy, and orthopaedics. He later specialized in urology, qualifying as a surgeon at the University of Western Ontario in 1982.

Bryan's career was as vast and varied as his interests. A globetrotter with an exceptional mind, he held 45 different jobs in 28

locations across six countries. In early adulthood, his work included installing fences, bricklaying, selling ice cream, serving as a housemaster at a boys' school, and teaching English in Germany. As a physiotherapist in Christchurch, New Zealand, and later a general practitioner in New Zealand, England, and Canada, he dedicated his life to medicine. He eventually settled in British Columbia, working as a surgeon at hospitals in Nanaimo, Ladysmith, and Duncan, until his retirement.

Bryan was known for his sharp wit, boundless energy, and dedication to excellence. He loved his medical career, competitive sports (particularly golf), world history and culture, creative pursuits, automobiles and car racing, animals, travel, and—above all—spending time with his friends and family.

He is survived by his partner, Cynthia Olson; his children, Silya, Kaya, and Jon Wiggins; his grandchildren, Madeline Wiggins, Chloe Postawski, and Evan Ranieri; his sister-in-law, Judy Wiggins; and his nephews, Hamish, Andrew, and Simon Wiggins, along with their families in New Zealand and Australia.

Bryan was predeceased by his parents, Jean and Francis Wiggins; brother, Michael Wiggins; and former spouses, Anne Wiggins (Beehan) and Ruta Wiggins (Onni).

Per Bryan's wishes, no formal service will be held, but a gathering of close friends and family will take place at a later date. In lieu of flowers, those who wish to make a memorial contribution are invited to donate to the SPCA, an organization close to Bryan's heart.

—Jon Wiggins
Victoria

—Kaya Wiggins
Vancouver



Dr Gavin Wynne Smart
1958–2025

Dr Gavin Smart passed away suddenly in Vernon, BC, on 27 February 2025. Gavin was born in Edmonton and grew up in Victoria. He obtained his Bachelor of Science in kinesiology at Simon Fraser University in 1979 and his MD from the University of British Columbia in 1984. He did his rotating internship at Wellesley Hospital in Toronto until 1985 and then worked briefly in Thunder Bay before returning to BC to start a residency in rehabilitation medicine. After 1 year in residency, Gavin decided he'd rather be a general practitioner and, along with his wife Rhonda, joined his friends Bill and April Sanders in Quesnel, BC, where they were working at the time. While in Quesnel, Gavin and Rhonda welcomed into the world their son Rowan and daughter Silken. After 7 years of full-service general practice work in Quesnel, he relocated with

his family to Vernon, where he spent the rest of his life.

Gavin was a man of many talents. He was a gifted athlete. In his final year of high school, he was the fastest 400-metre runner on Vancouver Island. Despite initially being a sprinter, he decided to run longer distances and eventually ran the 1984 Vancouver marathon. He competed on the UBC track team while in medical school. Gavin also played soccer, cycled mountain and road bikes, paddled river canoes, skied cross-country and downhill, and went on numerous backpacking adventures with friends and family. He also completed the Penticton Ironman. For many years, Gavin paddled the Bowron Lake Canoe Circuit with friends from Vernon and Quesnel during reunions in October.

Gavin was a skilled woodworker, photographer, and videographer. He always took cameras and drones on trips to slightly annoy his friends and family with admonitions to pose for the camera, only to later

produce entertaining professional-quality photo and video montages. Gavin also had the unusual musical talent of being able to play almost any tune on the piano by ear. He rarely needed to use sheet music.

Gavin was a ferocious organizer and volunteer. He ran annual winter and summer triathlons in Quesnel, was on the planning committee to build Vernon's indoor soccer facility, was one of the main organizers of the annual Vernon Doctors Hockey tournament, was a physician to the Air Rescue One Heli Winch Society, was head physician to the SilverStar Mountain Ski Docs program, was physician to the Vernon Vipers hockey team for many years, and was chief of family practice at Vernon Jubilee Hospital for several terms.

But where Gavin really shone was as a family doctor. Beloved by his many grateful patients, he practised with the highest of integrity. Conscientious almost to a fault, Gavin was well known for his thorough care.

Kindness was also one of Gavin's defining characteristics. He would happily offer to perform a professional-quality photo shoot for you or your family, custom-frame your picture with his woodworking tools, refurbish your canoe, or just drive you somewhere when you weren't able to drive yourself. As friends go, he was the best. He was our friend for almost 50 years, and he will be deeply missed.

—William Sanders, MD

Vernon

—April Sanders, MD

Vernon

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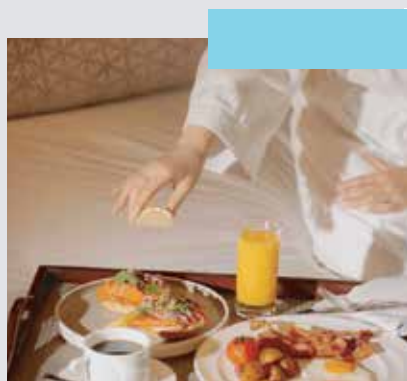
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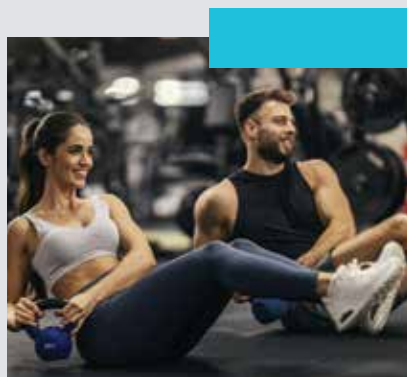
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