Magazica

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Hope, Happiness

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Dr. Janine Gray

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Dr. Janine Gray

Interview

With the Associate Dean at the University of Niagara Falls

Dr. Janine Gray is the Associate Dean for the Honours Bachelor of Science in Biomedical Sciences at UNF, holding a PhD in Zoology from Rhodes University, South Africa. A former senior instructor at Dalhousie University, she was instrumental in establishing the Bioveterinary Science program and founded the unique African Wildlife Ecology course. Dr. Gray is renowned for her student-centric approach, equipping future professionals with essential academic, practical, and soft skills.

Paradigm Shift in Biomedical Sciences Education:

Dr. Janine Gray's Vision for Smarter, Kinder Health Care as a leader at the University of Niagara Falls Canada

Meet Dr. Janine Gray, the kind of educator who doesn't just teach science; she makes it unforgettable. As Associate Dean of Honours Bachelor of Science in Biomedical Sciences at the University of Niagara Falls Canada (UNF), she's reshaping how future doctors learn, think, and care. From virtual reality anatomy labs to a curriculum built on empathy and adaptability, Dr. Gray is leading a quiet revolution in biomedical education. Her story is proof that great teaching isn't about information, it's about transformation. If you've ever wondered what it takes to build a smarter, more human-centered health care system, this interview is your front-row seat. Let's dive in.

Magazica: Dear viewers and listeners, we have with us today a person whose efforts unobtrusively shape the future of medicine: Dr. Janine Gray is the Associate Dean of the Honours Bachelor of Science in Biomedical Sciences program. She holds a PhD in Zoology.

With a career that spans two continents, Dr. Gray has not only taught and guided numerous students but also initiated programs that combine science, empathy, and international sensitivity. From creating immersive wildlife ecology experiences to fostering student-driven learning in Canada, her journey is one of curiosity, determination, and purpose.

Her story reminds us that science is not just about texts and labs, it's about individuals, possibilities, and the transformative power of education. Dr. Janine Gray, welcome to *Magazica*.

Janine Gray: Thank you very much. I'm very pleased to be here. And that was an awesome introduction, thank you.

Magazica: It's our pleasure and honour to have you here. So, let's start at the beginning. Curiosity and career, let's talk about a turning point. Your biomedical science education began long ago, before you were a professional. Were you a science kid at a young age, or do you recall any personal experience that led you to realize this was not merely a course, but your vocation?

Janine Gray: Growing up, I wouldn't say I was a science kid. I grew up in South Africa, and science wasn't a huge deal then, especially for women. I had a very traditional father, and when I chose science and math as my high school courses, he actually went in and changed those choices to cookery and needlework.

Of course, I changed them back, otherwise I wouldn't be here. What really got me started was a great biology teacher who showed me how interesting and fun biology could be. Mrs. Richardson, who is now Dr. Richardson, was fantastic. She made our classes engaging and enjoyable. It was a very formative time.

Magazica: Yes, and we can thank Mother Nature that you didn't stick with cookery and needlework. Having an excellent teacher with pedagogical mastery makes all the difference. Biomedical sciences may intimidate many, myself included. I come from HR, which is more on the soft and business side of education, and my undergrad is in sociology. So, how do you make complex scientific material accessible and relatable to students' everyday lives, especially in Canada?

Janine Gray: I think it's all about how the material is delivered. That's something I discovered through my biology teacher. Any topic in science, even if it seems boring or intimidating, can be made interesting if it's presented in the right way and brought down to the students' level.

Biomedical sciences are all about the human body, how it works, and what can go wrong. When we get sick or face diseases, understanding those processes becomes very relevant. So, when teaching, I bring in real-life examples. For instance, when you get thirsty, what's happening in your body? Explaining these everyday phenomena makes the material more understandable, fun, and relatable for students.

Magazica: I couldn't agree more, especially as a teacher myself. Let's extend that into our next topic: the power of mentorship. How is the biomedical program at UNF different in terms of empowering students? What makes it special?

Janine Gray: I love the way we run the biomedical sciences program. I've been an academic advisor and taught at other institutions, more traditional ones with two semesters a year, each lasting twelve weeks. I often saw students struggle with the workload.

What we've done at UNF is a bit different. We have four terms a year, but we teach in only three of them. That allows us to spread out the courses, making the workload more manageable. Students still complete around ten courses in the academic year, but the pacing helps them absorb the material better and reduces stress.

Magazica: By spreading the coursework out a little, students can really focus.

Janine Gray: They can focus more on fewer courses. Many of our students are aiming for careers where high grades are essential. You can't get into medical school unless you meet a certain academic threshold. So, having fewer courses allows them to concentrate and achieve those grades more easily than if they were juggling five courses per term. On average, we offer about three courses per term,

which supports a more focused approach.

Magazica: That sounds like a very pro-student approach.

Janine Gray: It's not just about how much they learn, but how deeply they can engage with the material.

Magazica: Right, and alongside that, you're ensuring they receive strong evaluation scores that will support their academic and professional journey. That's definitely a student-first philosophy.

Janine Gray: Yes, our approach is very student-oriented. It's about teaching in a way that aligns with how students learn best. If they're enjoying what they're learning, they'll perform much better than if they're disengaged.
Magazica: What you're describing really reflects your mentoring philosophy within the Biomed program. There's clearly a strong emphasis on soft skills as well. You mentioned teamwork, communication, and flexibility. Why do you think these human skills are just as critical as technical skills in health sciences?

Janine Gray: It's all about preparing for real life and future careers. No matter where you work, you'll need to collaborate with others. Teamwork is essential, and learning how to work in a group from the start helps build that foundation. It also fosters peer-to-peer communication skills. Most of our students will enter careers where they'll need to communicate with a wide range of audiences, patients, families, and the public. Often, they'll be presenting information to people who don't have a science background. So, it's important to teach them how to adapt their communication style depending on the audience. One day they might be speaking with a researcher, and the next with someone from the general public. They need to know how to pitch their message in a way that's understandable to everyone.

> “
> **LISTENING IS KEY. WE'RE LEARNING FROM THE STUDENTS' JUST AS MUCH AS THEY'RE LEARNING FROM US. THEIR VOICES MATTER.**
> ”

Magazica: That's something I've realized over the past year. We celebrated our first anniversary on July 1st, and throughout this journey, we've had doctors, professionals, and serious academicians like yourself join our platform. What's remarkable is how you all explain your fields of expertise in such an accessible way.

We represent the common people of Canada; most of us don't have a medical background. We're simply beneficiaries of the system, the labor, and the research you contribute. Yet, when you speak to us, it's clear and engaging. It's fascinating that you've structured your program to prepare students to speak to different audiences, sometimes even on the same day.

Magazica: Do you train students specifically for that adaptability, or is it built into the curriculum and program design?

Janine Gray: It's a bit of both. When I teach subjects like biology, some students come in with a bit of background, but I always tell them that science is like learning a new language. You have to learn the terminology. We begin by teaching them how to understand and use scientific terms, while also acknowledging that not everyone speaks at that level.

We also have several communication courses in development. These are designed to help students learn how to communicate with different audiences. It's not just about how we teach, it's also about what we teach.

Magazica: From an industry perspective, we often talk about the three major business philosophies, North American, Asian, and European. Across all of them, communication is emerging as the most essential skill. I'm fascinated to hear that you offer dedicated communication courses for your students. That's so… what's the word? Upmarket and visionary. Both.

Janine Gray: Actually, we have more than one course. We're working closely with a doctor who graduated from one of our Caribbean schools, Saba University School of Medicine. He emphasized that communication skills are vital between doctors and patients, and between doctors and families.

So, we've introduced a communication course this term to begin developing those skills. Then, in their final year, students can take clinical skills courses that focus specifically on communicating with patients, families, and other audiences.

Magazica: Technology is changing the face of medicine. How do you prepare students to navigate and contribute to this evolving landscape, where health science is rapidly merging with innovation?

Janine Gray: You said it perfectly. It's changing fast. And it's not just about computers or digital tools; it's also transforming the science itself. What we aim to do is integrate technology as much as possible and teach students not to fear it, but to embrace it.

More importantly, we want to instill adaptability. Technology evolves constantly. What students learn today may be obsolete tomorrow. So, we focus on giving them the skills and mindset to adapt to new technologies and learn how to use them effectively.

One of the exciting things we're implementing is virtual reality. We're going to use VR to teach anatomy and physiology. We're currently building a virtual reality room – a large, open space where students can gather in groups and interact with a 3D human body. They'll be able to explore different body systems in a highly visual and immersive way.

It's almost hands-on. They can manipulate parts of the body virtually, and they're learning in a format that feels natural to them. Today's students are constantly on their devices, many are gamers, and are already familiar with VR. So, we're meeting them where they are.

Magazica: When students can visualize the position of the heart in relation to the liver or pancreas, it gives them a real-life understanding of anatomy.

Janine Gray: Exactly. I once had the opportunity to experience a beating heart in virtual reality. I could see the valves opening and closing, and the chambers contracting. I can explain that in a lecture, but seeing it is something else entirely. It's transformative, I love it. Students retain the information far better than they would from a PowerPoint presentation or static diagrams. Their memory retention increases significantly.

Magazica: Let us talk about the One Health Approach. For someone who's never heard of it, could you explain it simply and share why it matters?

Janine Gray: Absolutely. I'll start with the CDC's definition. One Health recognizes that the health of people is closely connected to the health of animals and the environment. Everything is interconnected.

It's not just about human health. It's also about how diseases can be transferred between animals and humans, and how the environment plays a critical role in disease presence. For example, tick populations are low in winter but surge in summer. That environmental shift directly affects disease transmission.

To prevent or control disease spread, we need to consider all these factors. That means bringing together experts from human medicine, veterinary medicine, and environmental science, not just doctors and vets, but also researchers, microbiologists, and others.

The goal is to reduce environmental impacts that contribute to disease, and to collaborate across disciplines to prevent outbreaks. COVID-19 is a prime example. It spread rapidly, and we weren't prepared. But the response involved not just medical professionals and vaccine researchers, but also experts in animal health and environmental science.

We learned that even domestic animals, like cats, could contract and transmit COVID. So, understanding these cross-sector impacts is vital. We may not be able to stop every outbreak, but we can work together to limit its spread and prepare better for the future.

Magazica: That means One Health is such a holistic concept, looking at well-being not only for the human species, but also for the ecosystems we live in. That's… wow. Please, go on.

Janine Gray: Our populations are growing, and we're moving into geographical areas where animals already live. That brings us into closer contact with wild and domestic animals, increasing the likelihood of disease transfer. So, working on ways to prevent that is essential.

In the past, we didn't mix much globally, travel between continents was rare. Now, we move easily across borders, transporting animals and people everywhere. That makes it even more important to focus on these three interconnected aspects, human health, animal health, and environmental health, more than ever before.

Magazica: True. It's the globalization of everything. We travel to different countries, try their cuisine, live in their ecosystems for a few days or weeks, and then return home.

Janine Gray: I think One Health is the lens we need to adopt. Whether we're talking about human medicine or animal medicine, it has to be approached through the One Health framework.

Magazica: And COVID was, I think, the most recent and one of the greatest wake-up calls.
Janine Gray: It was.

Magazica: Now, let's shift a bit toward mentoring and teaching. Let's talk about resilience in academia. Teaching and leading in a high-stakes field can be draining. What habits keep you centered and organized?

Janine Gray: It can be draining, absolutely. But

I think what we're doing at UNF is different, and in some ways, better. Of course, I'm biased, but we're genuinely excited about our approach. We're bringing in faculty who are eager to teach differently, to innovate. That energy is contagious.

I have team meetings twice a month, and I always leave feeling energized because my faculty are excited about what they're doing. We recently had a retreat focused on incorporating AI into education. Instead of fearing it, which many of us do, we explored how to embrace it. We discussed ways to use it effectively and how to teach students to use it responsibly. That kind of enthusiasm among faculty is what keeps me going.

Magazica: This semester, I gave my students a small case study, just 5% of their course grade. I told them to use ChatGPT or any AI platform, but they had to include two things: first, the platform they used and whether it was free or paid; second, the prompt they used to extract the answer.

Janine Gray: That's great. And it's important to remember that not everything AI produces is accurate. It has biases, and students need to be aware of that. The old method of cutting and pasting isn't the right way to use it.

We need to teach them to reassess and review the information. They should verify the sources and ensure they're credible. Some sources can be fabricated, and students need to learn how to spot that.

Magazica: That's so true. After that assignment, I spent an hour and seventeen minutes with the class reviewing the AI-generated answers. I reminded them: it's artificial intelligence. You, my friends, are human intelligence; you have better deductive power.

Janine Gray: Exactly.

Magazica: AI can give you information, but you have to determine whether it's contextually accurate and usable. It's fascinating to hear that you're thinking this way. Many of my colleagues are still afraid of AI. I tell them, you can't avoid it, so make the best of it.

Janine Gray: They're going to use it, no matter what. So let's teach them to use it effectively.

Magazica: That's the right word, effectively. So nice of you to share that. Thank you. Let's talk about breaking barriers. Have you ever had moments when you had to bend the rules to win a battle or drive change in education or healthcare? Leadership often demands that. How did you do it, or how did it feel when you uplifted something for the better?

Janine Gray: At heart, I'm not really a rule breaker. I mean, I was when I was younger, but in the world I'm in now, it's a bit more challenging. Still, I try to find ways to work around limitations or drive change. It's important to speak up.

One example I've already mentioned is our term system. By giving students additional terms and allowing them to focus more deeply, we're addressing one of the biggest challenges I saw at other institutions: student burnout.

Students were overwhelmed and unable to achieve what they wanted because the workload was simply too much. Reducing that load, even slightly, has made a big difference. So, while I may not be a rule breaker, I do recognize when something is better, and I advocate for it.

Magazica: Trust me, I earned one master's degree in the UK and another at UofT. I wish I'd had that kind of semester system during my student life.

Janine Gray: Exactly. You'd think that with four terms instead of two semesters, and each term being ten weeks of instruction plus a week or two for assessment, students would be getting less. But in fact, we offer four hours of instruction per week, plus three-hour labs for certain courses. That adds up to 40 hours of instruction over ten weeks, more than the traditional 12-week semester with three hours per week.

Magazica: We're just concentrating on it a little more, and in a more efficient and effective way.

Janine Gray: Exactly.

Magazica: A message to our everyday listeners: most of our readers and viewers aren't scientists, but they care deeply about their families and their health. What's something you've learned through your research that could make their lives a little easier?

Janine Gray: There's a lot I've learned. One of the biggest things is watching our first cohort

grow. As a brand-new university, we're seeing students come in, develop, and share their experiences. We meet regularly with student representatives, take their feedback seriously, and try to implement changes based on what they tell us.

Listening is key. We're learning from them just as much as they're learning from us. Their voices matter.

Another thing I'd share is the value of our pre-med pathway. It offers a direct route into our Caribbean medical schools, which can be a daunting process for many students. By streamlining that path, we remove a lot of the stress and guesswork, allowing students to focus more on their studies. Another thing I'd share is the value of our Pre-Med Pathway. It offers a direct route into our partner Caribbean medical schools.

Magazica: So, looking ahead, what excites you most about the future of biomedical sciences? Do you have any new projects or ideas that fire you up at the University of Niagara Falls Canada?

Janine Gray: That's a tough question. I love what we're doing, and I love that it's constantly evolving. We're always learning, not just from students, but also from the rapid changes in technology. We have regular meetings with professionals from the health care sector through our Program Advisory Committee. These industry experts review our curriculum and give us feedback on whether we're on the right track or need to make adjustments.

That interaction helps us keep our program current, not just in terms of technology and content, but also in the skills we're teaching. Staying up to date is essential.

Magazica: As we near the end of our conversation, we like to ask everyone in a leadership position this final question. As a leader, mentor, and experienced researcher, how would you like your legacy to be remembered?

Janine Gray: You know, I'm quite a humble person most of the time. But for me, it all goes back to my biology teacher. It's about inspiring students, making sure they love what they're learning.

I'll share a story about my daughter. She came to one of my lectures on "Bring Your Child to Work Day" when she was in grade nine. Before that, I used to struggle to get her interested in biology. I'd tell her, "Study it, it's fun, enjoy it."

That day, she asked how long the lecture would be. I said, "An hour and a half." She replied, "Oh, that's as long as a movie." So I told her, "Sit at the back, and if you get bored, you can go to the coffee shop next door and wait for me."

But she stayed for the entire lecture. At the end, she came bouncing up to me and said, "Mom, that was wonderful! I loved it!" We were talking about lungs and gills, not exactly the most thrilling topic, but she found it fascinating. That's what I want for my students.

That's the legacy I hope to leave: that students love learning. It's not about mastering a specific topic, it's about embracing the joy of learning itself.

Over the years, I've taught a wide range of courses. I'm a zoologist by training, but I've taught sports science students, hairdressers, psychology students, you name it. I just love learning new things, and I want my students to feel the same way. To embrace every learning opportunity and take it further.

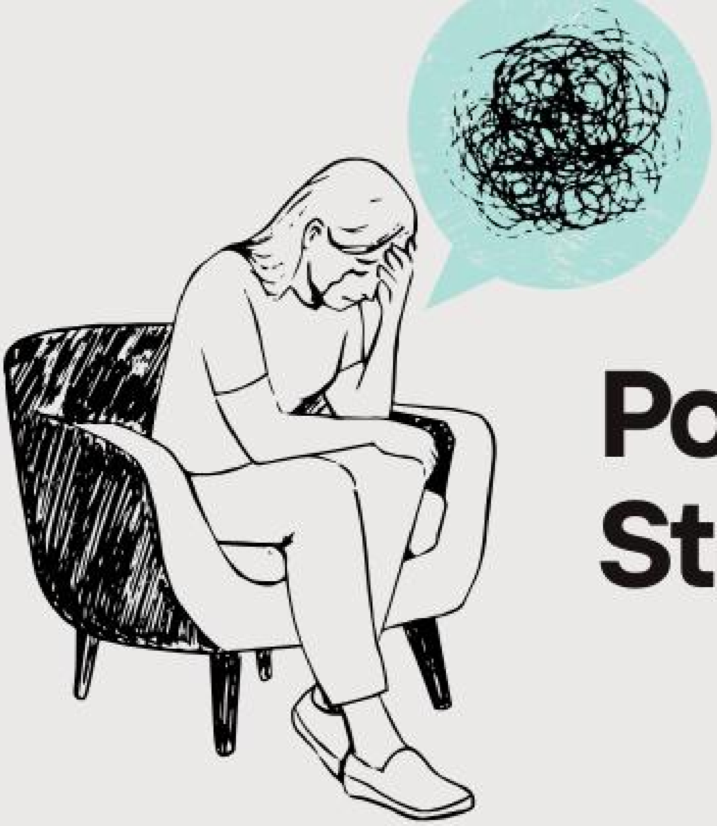
And now, my daughter is going to become a teacher. She's going to teach biology. What more could I ask for?

Magazica: If that's what you pass on to your students, that they learn to love the subject and love teaching, then that's a legacy worth celebrating.

Janine Gray: It's what we want in life, right?

Magazica: So lovely to hear. I should add that your experience as a researcher and educator is vast. You've taught such a diverse spectrum of students. And I couldn't help but notice the picture behind you that says, "Innovation flows here." Your teaching must be incredibly innovative to resonate with such a wide range of learners.

Janine Gray: Thank you. I try to be.



Post-Traumatic Stress Disorder

The Weight of PTSD

Elevating Treatment and Hope During International Pain Awareness Month

By Editorial Team

September marks International Pain Awareness Month, a time dedicated to recognizing and advocating for those silently living with both physical and emotional pain. Among the most profound—but often invisible—forms of suffering is Post-Traumatic Stress Disorder (PTSD). In 2025, with awareness gaining momentum globally, it's time Canada embraces a more integrated and compassionate approach to PTSD—especially as we understand its deep connection to chronic pain.

Let's explore what this month truly represents—and how we can turn understanding into action.

PTSD and Pain: The Overlapping Struggles

PTSD is typically seen as a mental health disorder, but it's increasingly acknowledged as a whole-body condition. According to the International Association for the Study of Pain (IASP), individuals with PTSD often experience chronic pain, including:

- Migraines
- Musculoskeletal pain
- Digestive issues
- Autoimmune disorders

A 2024 PubMed Central article confirms this mind-body link, noting that neuroinflammation, heightened cortisol levels, and disrupted neural circuits all contribute to lasting physical pain in PTSD patients 【PMC10845104】.

This intersection of trauma and pain creates a vicious cycle: trauma exacerbates pain, and pain reignites trauma—making it harder for individuals to seek help or receive proper treatment.

PTSD in the Canadian Context

In Canada, Public Safety Personnel (PSP)—including police officers, paramedics, correctional officers, and firefighters—are disproportionately affected. Data from CIPSRT shows that 44.5% of PSP in Canada experience symptoms of one or more mental health disorders, with PTSD being the most common 【CIPSRT, 2024】.

But PTSD is not confined to frontline workers. It affects:

- Survivors of abuse and assault
- Refugees and immigrants
- Healthcare workers (especially post-pandemic)
- Youth facing violence, neglect, or discrimination

Barriers to Healing

Despite growing awareness, many people living with PTSD—and its accompanying pain—face obstacles to care:

1. Underdiagnosis

Because PTSD symptoms often overlap with depression, anxiety, or chronic illness, it's misdiagnosed or overlooked entirely.

2. Stigma and Silence

Especially among men, veterans, and racialized communities, seeking help is often seen as weakness. This stigma prolongs suffering.

3. Limited Access to Trauma-Informed Care

Many health systems lack interdisciplinary teams equipped to treat the emotional, neurological, and physical dimensions of trauma.

4. Disconnected Treatment

Pain is treated in isolation, and mental health in silos—ignoring the critical interplay between them.

The New Era of Hope: Innovations in PTSD & Pain Treatment

The good news? 2025 is ushering in promising breakthroughs and more integrated approaches:

◆ 1. Somatic and Trauma-Informed Therapies

From EMDR (Eye Movement Desensitization and Reprocessing) to trauma-informed yoga and neurofeedback, a new generation of therapies is helping patients reclaim body awareness and safety.

◆ 2. Multimodal Pain Clinics

Clinics like those at TreatingPain.com now offer combined care—psychological support, physiotherapy, medication, and mindfulness—under one roof 【TreatingPain.com, 2024】.

◆ **3. Policy and Advocacy Progress**

Organizations like the IASP and Atlas Institute for Veterans and Families are advocating for PTSD to be treated as a chronic condition with physical manifestations, not just a psychological disorder.

◆ **4. Digital Interventions**

App-based CBT programs, wearable biosensors, and AI-enabled early diagnosis tools are helping track pain triggers and PTSD flare-ups in real time.

What You Can Do This September

Pain Awareness Month and PTSD Awareness efforts converge in a call to:

✓ Talk about PTSD and pain—especially in schools, workplaces, and communities.

✓ Advocate for trauma-informed care as standard practice.

✓ Support veterans, refugees, and abuse survivors through local charities.

✓ Listen without judgment when someone says they're hurting.

✓ Write to your MP or MPP about funding for interdisciplinary clinics.

Final Word from Magazica

Pain—whether emotional, physical, or both—deserves to be seen and treated with dignity, science, and heart.

This September, let's remember: PTSD is not just a story of survival. It's a call to change how we treat pain, and how we care for each other.

Did You Know?

Insight	**Detail**
PTSD Prevalence	9.2% lifetime prevalence in Canada
Link with chronic pain	Up to 50% of chronic pain patients have PTSD
Neurobiology	PTSD involves changes in the **amygdala, hippocampus, and prefrontal cortex**
Common comorbidities	Depression, anxiety, fibromyalgia, IBS, and migraines
Best practices	Integrated care, CBT, somatic therapy, social support

Sources & Further Reading:

1. IASP – Pain Awareness Month: https://www.iasp-pain.org/advocacy/pain-awareness-month/
2. TreatingPain.com – September 2024 Initiatives: https://www.treatingpain.com/news-updates/2024/september/pain-awareness-month-2024/
3. Atlas Veterans Canada – PTSD Awareness: https://atlasveterans.ca/news/june-is-ptsd-awareness-month-inspiring-understanding-support-and-hope/

4. PubMed Central – PTSD and Chronic Pain: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10845104/
5. American Institute of Stress – PTSD Month 2025: https://www.stress.org/news/in-2025-june-is-designated-as-ptsd-awareness-month/
6. CIPSRT – Canadian PTSD Research: https://www.cipsrt-icrtsp.ca/en/june-2024-is-ptsd-awareness-month
7. Pain Australia: https://www.painaustralia.org.au/campaigns-awareness/2021-international-pain-awareness-month
8. Yahoo News – Pain Awareness Month 2024: https://finance.yahoo.com/news/september-international-pain-awareness-month-100000251.html

Back-to-Routine, Back to Wellness:

Rethinking Nutrition as Fall Begins

By Editorial Team

As summer sunsets fade and routines resume, fall brings a gentle call to reset. The season of change isn't just about cozy sweaters and pumpkin-spiced everything—it's a chance to realign with wellness and rediscover balance in our daily habits, especially when it comes to how and what we eat.

A Natural Time for Renewal

There's something about fall that encourages reflection. With schools reopening, workloads shifting, and the weather cooling, we naturally fall back into more structured routines. It's the perfect backdrop to re-evaluate our wellness goals—not with pressure or perfectionism, but with intention.

Instead of launching into extreme diets or fitness challenges, many health professionals now encourage us to take a softer approach. The rhythm of fall offers stability, and that stability creates the ideal environment to adopt sustainable eating habits that nourish both body and mind.

Transitioning Your Nutrition

In the summer, we often gravitate toward light, refreshing meals. But as the temperatures drop, our bodies tend to crave warmth and comfort. Shifting to roasted vegetables, whole grains, and seasonal fruits like apples, pears, and squash not only supports digestion but also boosts immunity ahead of winter.

Meal planning becomes easier in the fall too—when our routines settle, so does our ability to shop and cook with intention. Whether you're prepping soups on Sundays or packing lunches with high-protein snacks, the consistency of a fall schedule helps make healthier choices feel natural, not forced.

Mindful Eating for Modern Lifestyles

Beyond food itself, fall is a good time to build mindful habits. Slower, more intentional eating can improve digestion, reduce stress, and even help regulate energy throughout the day. Whether it's stepping away from screens during lunch or taking a moment to savor your morning coffee, these small actions have a ripple effect.

It's also a good time to examine your relationship with food. Are you eating to fuel yourself or simply filling gaps in your schedule? Reframing nutrition as self-care—rather than restriction or control—can be the most powerful shift of all.

A Season to Recenter, Not Restrict

Fall wellness isn't about cutting things out; it's about welcoming in what supports you. Maybe that's swapping iced drinks for herbal teas, taking short evening walks, or reconnecting with your favorite home-cooked meals. The best routines are the ones that work with your life—not against it.

This season, give yourself permission to reset, not reboot. Let structure be a source of peace. Let food be fuel, not stress. And let fall be your season of gentle transformation.

Resources

- Lokahi Wellness Collective – Easing Back into Routine
- Buzzsprout Podcast – Why Fall is the Best Season to Reset Your Fitness & Nutrition
- Mayo Clinic Health System – Fall Into Wellness
- Inspire Beauty – Prep & Reset Your Routine for Fall
- Abbott Nutrition – From Pause to Progress
- Guiding Stars – The Fresh Start Effect of Fall
- Rethinking Wellness – Substack Updates
- Transitions Counseling – Why Fall is the Perfect Time to Reinforce a Healthy Routine

Early Battles:

The Promising Advances in Childhood Cancer Care Across Canada

By Editorial Team

Every September, golden leaves begin to fall—and with them, an urgent reminder blooms: September is Childhood Cancer Awareness Month. While a cancer diagnosis is heartbreaking at any age, it carries a particular weight when it strikes the youngest among us. But in research labs, hospital wards, and policy tables across Canada, science, innovation, and human empathy are coming together to rewrite the story of childhood cancer—offering not just treatments, but hope.

Let's explore the bold advances that are giving Canada's children better chances, brighter futures, and stronger voices in the battle against cancer.

Genomics Takes the Lead: One Size Doesn't Fit All

At BC Children's Hospital, an innovative approach called Pediatric Personalized OncoGenomics (PedsPOG) is changing the game. This isn't just a medical test—it's a genomic roadmap tailored to each child's unique cancer. By analyzing a tumor's DNA and RNA, researchers have been able to uncover targeted treatment options in nearly 96% of cases, with 15% revealing hereditary red flags that could protect entire families.

What this means: no more generic chemo plans. It's precision medicine, crafted for the tiniest, most vulnerable patients—with massive impact.

From Chicken Eggs to Breakthrough Drugs

You'd never expect it, but chicken eggs are now helping doctors fight childhood cancer.

Researchers at UBC's BRAvE lab have introduced a revolutionary new model—growing human tumors on the membrane of fertilized eggs. The goal? To rapidly test which drugs (even unexpected ones like antidepressants) stop the cancer in its tracks. It's fast, cost-effective, and surprisingly accurate—sometimes delivering answers in just two weeks.

Could this quirky lab method transform pediatric cancer trials? The early signs say yes.

Clinical Trials, Now More Accessible Than Ever

Canada is also stepping up its game with nationwide trial access, removing the postcode lottery from life-saving research.

Through platforms like ACCESS and U-Link, parents can now explore treatment options and clinical trials near them—whether they're in downtown Toronto or remote Nunavut. There's even financial assistance to help cover travel, lodging, and missed work.

This is more than medical support—it's family empowerment in action.

Support Beyond the Hospital Walls

According to the 2025 Impact Report from Childhood Cancer Canada, medical care is just one part of the healing journey.

- Over 900 families received emergency funds last year, helping cover unexpected costs.
- Nearly 240 EmPower Packs—care kits filled with comfort items—were sent to newly diagnosed children.
- 182 survivors were awarded scholarships to pursue their dreams post-recovery.

Perhaps most touching is the DECRYPT initiative, Canada's only national project targeting rare and aggressive pediatric brain cancers. When traditional treatment falls short, DECRYPT steps in—with compassion, courage, and cutting-edge science.

Discoveries That Could Stop Cancer from Spreading

In Vancouver, a new drug in development may block the spread of osteosarcoma, a bone cancer that affects children and teens. The discovery—led by renowned pathologist Dr. Poul Sorensen—targets a protein called IRS2, potentially stopping tumors before they reach the lungs. Clinical trials are on the horizon, and the research has already sparked international interest.

Real Stories, Real Impact

"Every discovery adds a piece to the puzzle. We're not just treating cancer. We're building a future where more children can thrive."
—Dr. Georgina Barnabas, BC Children's Hospital Researcher

"This brings new hope to children battling osteosarcoma. We might be able to give them a much better chance."
—Dr. Poul Sorensen, BC Cancer Researcher

The Bottom Line

Canada's pediatric cancer landscape is evolving—from data-driven therapies and national trial networks to innovative lab testing and heartfelt support programs. It's no longer just about surviving cancer—it's about living well through it and beyond.

As science advances and communities rally, the message is loud and clear: Childhood cancer won't win this fight—not without meeting fierce resistance and fierce love.

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6. BC Cancer Foundation: New Drug Discovery Could Prevent Spread of Childhood Bone Cancer

Pharmacies Are Becoming Canada's New Front Door to Primary Care

By Dr. Mahdi Khazaei

On a Friday morning in Surrey a Shoppers Drug Mart pharmacist is doing something that, a few years ago, would have surprised most patients. She is not just handing over a prescription. She is running a quick assessment for a minor infection, sending an e-prescription to the in-store pharmacy, and booking a follow up. That scene is about to get a lot more common. Shoppers has now opened all seven Pharmacy Care Clinics in Surrey, a cluster of sites that offer assessment and treatment for common conditions, routine vaccinations, and medication reviews. The company says it pushed the timetable forward to meet local demand, which helps explain why this story matters to investors as much as it does to patients. A retailer is quietly building a primary care beachhead, clinic by clinic, inside the country's fastest growing city.

The business logic is simple. Canada has a shortage of family doctors in many communities, and provincial governments have been expanding what pharmacists are allowed to do. When scope grows, the value of a pharmacy's square footage grows with it. A consultation room that once sat empty can become a profit centre. A pharmacist's clinical time can be billed through public or private channels, depending on the service and province, which turns a historically low margin retail business into something steadier and more service based. The payoff is not only today's clinic fee. Every clinical visit tends to drive a bundle of high margin add ons that retailers already know how to monetise, from vaccinations to over the counter products, and it builds loyalty with customers who have heavy health needs.

Policy is blowing in the same direction. In 2025 Ontario signalled another expansion of pharmacist prescribing for minor ailments, part of a wider push to take pressure off emergency rooms and family practices. Research suggests the public is ready. A national Leger survey this spring found Canadians increasingly view pharmacists as frontline providers who can safely take on more assessment and prescribing work, which matters when you are betting on long term adoption rather than a one time pandemic surge.

For Loblaw, which owns Shoppers, the strategy helps diversify away from food margins that can swing with inflation and competition. Health and wellness already underpin loyalty programs and private label sales. Adding clinical services deepens those ties, keeps foot traffic predictable through the week, and creates reasons to visit the store that do not rely on discounting. It also positions the company for direct contracts with employers and insurers who want quicker access for their members, especially for routine care that does not need a physician visit. The Surrey rollout is a local story, but it is also a template. If unit economics hold up, clinics can be replicated across urban and suburban locations where the company already controls real estate and staff.

The move will not go unchallenged. Telus Health has spent the past few years building a national employer wellbeing platform and virtual care network. Its Workplace Options acquisition added millions of covered lives and deeper relationships with HR teams that could become a distribution channel for in-person care. WELL Health, a consolidator of medical clinics and digital platforms listed on the TSX, reported record quarterly revenue in August and its first quarter with more than one million patient visits in Canada, a sign that hybrid models still have plenty of room to grow. In other words, the fight for the front door is on. Pharmacies bring convenience and location. Tech enabled clinic groups bring depth of care and physician networks. Employers are an important swing voter because they influence where workers go for first contact care.

Investors should think about this shift the way retailers think about store layout. Clinical rooms reclaim underused space and draw customers deeper into the box. A pharmacy care visit creates predictable traffic patterns that can be planned around, which improves labour scheduling and inventory turns. The data flywheel spins faster because clinical interactions add context to retail baskets. That opens the door to targeted programs for chronic conditions, loyalty offers that tie to adherence, and integrated online booking that keeps customers in a closed loop. None of this requires a moonshot technology breakthrough. It requires execution, consistent scope of practice, and a steady pipeline of trained pharmacists and nurse practitioners.

There are risks that deserve attention. Staffing is the most obvious one. Pharmacy teams have shouldered heavy workloads since the pandemic, and clinics add more demands to a finite number of clinicians. If staffing falls behind growth, service quality slips, and the reputational hit can be hard to reverse. Reimbursement is another wildcard. Provinces pay for some services and not others, and rate cards can change with budgets. Investors should watch for signs that provinces lock in sustainable fees for assessments and prescribing, since that underpins return on the fit-out of clinic rooms and the added payroll. Physicians will also have views. Many welcome pharmacists taking minor cases off their desks, but professional tensions can surface if the line between routine care and more complex management blurs.

The competitive backdrop in the United States offers a cautionary tale and a contrast. Major chains south of the border spent big to bolt clinics onto pharmacies, then pulled back as costs and utilisation failed to match optimistic models. Walgreens' VillageMD strategy has been unwound, and recent reporting suggests the company's new owners are exiting primary care and planning more store closures, which has raised questions about access and the viability of clinic-inside-a-pharmacy economics when payer mixes are tough. Canada is not the United States. Payment systems, pharmacy ownership rules, and patient expectations differ. Even so, the lesson travels. Clinics need the right mix of services, reliable funding, and clear operational guardrails to succeed at scale.

If you zoom back out, the Surrey launch reads like a small but telling signal. Primary care is getting closer to where people already are, inside grocery anchored plazas and high street corners. That is good for patients who want same day access for straightforward problems. It is good for health systems that need to protect scarce physician time. It can be good for investors who understand that a retail box can become a clinic without turning into a hospital. The trick is to remember that health is still a service business. Outcomes and experience will decide which models scale. The companies that pair simple access with disciplined operations are likely to be the ones still opening clinics a year from now.

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Fatemeh Falah

Article

By a Journalist and University Professor

Fatemeh Falah is a journalist with a robust background in business reporting, science communication, and language education. Her coverage spans local economies, small businesses, cancer research, and community health. With a decade as an EFL teacher, translator, and editor, she excels at transforming complex information—from economic data to scientific findings—into accessible, engaging narratives. She holds a particular interest in the language of science and has guided students in public communication.

A Disease to Be Believed

Canadian Tarlov cyst patients demand acknowledgment of their pain by healthcare professionals

Tarlov cyst disease found its way into Tara Matthews' vocabulary in the spring of 2024. The 39-year-old ecologist had spent nine years working at hands-on environmental restoration projects at MacKay Creek and the estuary near Capilano Mall, both in North Vancouver, B.C. But, for the past year, she had operated at a reduced capacity due to a tingling in her leg. Physiotherapy brought no relief. In April 2024, the pain and muscle spasms became so bad that she could no longer walk and had to be taken to the emergency room. There, an MRI revealed cysts on the nerves in her spine.

Tarlov cysts (also known as meningeal or perineurial cysts) are fluid-filled sacs found at the spine's nerve roots, usually in the tailbone area. They are present in an estimated five to nine per cent of the general population, though women, for unknown reasons, are much more likely to get Tarlov cysts — three research papers on the subject report that women make up about 70 per cent, 88 per cent, or 90 per cent of Tarlov cyst cases. The cysts are typically benign, producing no symptoms.

But in rare cases, they can become symptomatic. This often follows traumatic incidents such as falls, automobile accidents, heavy-lifting injuries, and childbirth. According to research published in the International Journal of Physical Medicine and Rehabilitation in 2017, 16.7 percent of Tarlov cyst patients reported that trauma was the trigger that elicited or aggravated their symptoms.

The first symptoms are usually present long before an official diagnosis of symptomatic Tarlov cyst disease. Cerebrospinal fluid, the liquid that cushions the brain and spinal cord, flows into these cysts, causing them to expand. As the cyst grows larger, pressure on the nerves becomes progressively worse, and neurological symptoms appear. Patients with Tarlov cyst disease often experience back and leg pain, as well as a burning sensation and numbness in the lower limbs, sensory disturbances, abnormal urination and defecation, and sexual dysfunction. The wide variety of symptoms and rarity of the disease can lead to misdiagnosis.

“That week in April, I ended up going to the emergency four different times because I wasn’t getting any adequate medical help. They just kept offering me different pain medications. I think that most doctors don’t know anything about this illness, so they don’t know how to treat it,” said Tara.

Like many others dealing with complex medical conditions, Tara turned to the Internet for answers. She found a Facebook group where people experiencing the same pain from this rare disease shared their stories. It was there that she connected with Vera Cheng and Kayla.

Kayla, who asked that her last name be withheld, first experienced symptoms two years ago at the age of 32 after helping lift a patient at the hospital where she was working. She did not disclose her job title at the hospital but mentioned that she has quit her job.

Kayla had pain in her lower back for the first three months, but the symptoms then progressed into her groin and down her legs. “It feels like I have a 24/7 buzzing sensation or an internal vibration,” she said. “I have pain at the bottom of my feet, like a burning sensation in my toes. It’s hard to sit. The pain flares up when I’m standing or walking, which has really reduced my mobility. Once the pain flares up, it takes a long time for it to go back down.”

She says there are seven to eight cysts in her sacrum, a triangular bone at the base of the spine, just above the tailbone. Asked about when she received a formal diagnosis, Kayla replied, “I have not had ‘Tarlov cyst disease’ written down on any paperwork as a diagnosis. I have a mixed bag of Canadian doctors, some acknowledging that I have symptomatic Tarlov cysts causing pain and neurological symptoms like radiculopathy in my legs and feet, while others dismiss the cysts entirely. I don’t think I have ever spoken to a Canadian patient who has had a doctor write ‘TCD’ down as a formal diagnosis.”

Kayla has spoken to a neurologist, three Canadian neurosurgeons, her family doctor, an anesthesiologist, and several nurse practitioners in total.

Vera Cheng is 40 years old and used to work as a social worker. She first had symptoms of the disease after a car accident six years ago. Her flare-ups now bring on “excruciating, crushing pain, as if a concrete pillar is pressing down on me,” she said.

“Every time you think that the pain can’t be worse than this, it gets worse. And then, you think it’s just a flare-up, but then the flare-up becomes your new baseline.”

Pain has impacted every part of her life. “What do you do on a day-to-day basis that requires sitting? Everything,” she said. “You sit to work, to go to school, to drive, to have dinner with friends. But if you can’t sit, how do you do all those things? As walking becomes harder, you walk less and less. You can’t sit to drive, and now you can’t walk to get anywhere. Your world gets smaller and smaller.”

When Vera first reported her symptoms to her now-former doctor, nothing was done for her. As her condition worsened, she reported her symptoms again, and still, nothing was done. Eventually, she saw a doctor who recommended scans, and the scans revealed multiple large cysts.

“There was nothing further here,” she said. “Nobody suggested treatment. Nobody acknowledged that they could be symptomatic, because the history of it is that many radiologists see these on scans. They think they’re asymptomatic and incidental. I was fortunate that the radiologists acknowledged my cysts on the scan. Since the cysts were so big, I didn’t experience the runaround that many patients face. While the damage done by these cysts was clearly documented, I still couldn’t

get the help I needed. In fact, the most devastating part is watching your body get worse and worse with very serious neurological symptoms and not being able to get any help.”

Eventually, Vera was referred to specialists, but they would not see her. “My referral was just rejected. I was one of the ones that they didn’t even bother to see,” she recalled. Tara said she was referred to a neurosurgeon in New Westminster, but her appointment wasn’t until August 2026, and it was just a phone appointment, not in-person care.

Without proper acknowledgment of their cysts, patients may be misdiagnosed with unrelated conditions, which might lead to unnecessary and invasive treatments. According to Kayla, who tracks the experiences of Tarlov cyst sufferers online, [1] many patients are even told their symptoms are “all in their head”; they might falsely be labelled with psychiatric disorders.

Correct? If not, what is the source of the statement that many patients are told it’s all in their head?

“They will just say that the woman’s basically crazy. They’ll diagnose them with, like, fibromyalgia or functional neurological disorder or depression and anxiety. Or they'll just say women are malingering and faking it, or it’s psychosomatic. All these women can feel the pain when they sit, lie down, or walk, but then all these male doctors tell them that they’re wrong. There’s a lot of gender bias when it’s a condition that mostly affects women,” Kayla said.

Accusations of gender bias in healthcare and chronic pain treatment are not a new. That is particularly the case when it comes to rare diseases such as Tarlov cyst.

Dr. Nader Ghasemlou, a neuroscientist who leads the Pain Chronobiology and Neuroimmunology Lab at Queen’s University, said the unusual nature of the disease helps explain why medical professionals often overlook it.

“The incidence of Tarlov cysts is around five to 10 per cent of the population, let’s say 7.5 per cent. Then, only one per cent of those people experience pain or complications associated with the cysts. So, at most, 0.1 per cent of the population is dealing with this. That’s actually a significant number of people when you think about it. However, I’m guessing, if you’re a radiologist, and you’re looking at spine scans every day, and you see these cysts happening all the time, and it’s not something that the person was there for, you say, ‘These are normal. This happens all the time, and so it’s uneventful.’”

Historically, Ghamselou said, experimental work in medicine was almost exclusively done on male animals. The reasoning was that male mice don’t have menstrual cycles, so their biology was considered less variable and easier to study over long periods. However, groundbreaking work by Jeffrey Mogil at McGill University in Montreal and Michael Salter at the University of Toronto has changed this perspective. They showed that the menstrual cycle doesn’t affect experimental consistency. More importantly, the two researchers demonstrated that the mechanisms of pain

differ fundamentally between male and female mice — and likely between men and women. This discovery has opened up a new field of research examining why women experience more pain than men.

There's also an enduring misconception that chronic pain is purely psychological. The International Association for the Study of Pain defines pain as physical, psychological, and social in nature. While emotional responses can contribute to pain, this doesn't mean the pain isn't real. Especially with conditions like Tarlov cyst disease, where scans clearly show a physical cause, dismissing patients' pain as imaginary reflects a lack of education rather than valid reasoning. This approach is not only wrong but deeply harmful, Ghasemlou said.

Dr. Millan Patel, a clinical professor in medical genetics at the University of British Columbia and the co-founder of the Rare Disease Foundation said that an inherent sexism or chauvinism in the system has tended to lead healthcare professionals to discount women's complaints. For example, he said, research shows women with heart disease die from heart attacks much more often than men because their symptoms aren't taken seriously. Women are 50 per cent more likely to be misdiagnosed with a heart attack even though they carry the same risk of developing heart disease as men.

Another problem, Patel said, is that when a doctor accustomed to diagnosing known conditions is confronted with something unfamiliar or poorly understood, he may be inclined to dismiss the issue altogether.

"If it's not obvious, they just say, 'Nah, it's all in your head,' because the alternative would be to fully accept what the patient says and then do a whole pile of work in an area you don't understand well. And so the easy button is just to discount it," said Patel. "I wonder if there's a certain intellectual laziness in some physicians."

Dr. Kieran Murphy, a neuroradiologist at Toronto Western Hospital, has been treating Tarlov cyst patients for the past 20 years. He says about 20 to 30 per cent of them are symptomatic. In a recently published research paper, he concludes that inadequate knowledge due to the rarity of the cysts or gender bias by physicians has resulted in patients going untreated or facing significant delays in treatment.

It typically takes 10 to 15 years to change medical practices, Murphy said, especially for diseases once considered incidental or asymptomatic. "It's just a matter of educating physicians, most of whom stop learning new things once they leave medical school. Physicians need to be re-educated."

Dr. Frank Feigenbaum, a Dallas-based neurosurgeon who specializes in treating patients with Tarlov cysts, says that it's only more recently that the fact that Tarlov cysts can cause symptoms has started to become more mainstream thinking. The Centers for Disease Control and Prevention in the United States and the Centers for Medicare and Medicaid Services, he said, have designated Tarlov cysts as a potential pathology that causes symptoms in the spine and have given it a specific code.

"These are relatively new developments, so as time goes on, more and more people will become aware that Tarlov cysts can cause symptoms and what those symptoms might be. But it takes time for people to learn—or unlearn—what they've heard in the past. Specifically, in previous decades, the dogma was that Tarlov cysts never cause symptoms or are always asymptomatic. However, 'never' and 'always' in medicine usually turn out to be incorrect," he said.

The saying "What doesn't kill us makes us stronger" does not apply to Tarlov cyst patients, at least not in a medical sense. People who have multiple symptomatic Tarlov cysts are likely to experience ongoing nerve damage, leading to permanent chronic pain and disability.

Doctors generally prescribe antidepressants and anti-seizure medications for Tarlov cyst disease. These medications affect the neurotransmitters in the brain, which helps dial down the nerve pain. According to Ghasemlou, gabapentin and pregabalin are the frontline medications for chronic pain. "This is the standard treatment for everyone," he said. "If it doesn't work after six to twelve months, then other options are to try to reduce the pain."

Kayla says she's on amitriptyline and gabapentin. "Amitriptyline has gradually stopped working as effectively for me, so I am experiencing more pain in my legs," she said. "I switched from taking pregabalin, which never worked, to gabapentin. However, within a few weeks of taking it, a significant amount of my hair has started to fall out."

The constant pain and fear of becoming permanently paraplegic, coupled with a lack of support and dismissal from medical professionals in Canada, leaves some Tarlov cyst patients feeling that they have no choice but to seek medical help outside the country, which comes with a hefty price tag.

The cost of Tarlov cyst surgery performed by Feigenbaum, who treats patients from around the world in Dallas and at a hospital in the Mediterranean island nation of Cyprus, hovers around $80,000, depending on the number and size of the cysts.

The high cost of private, out-of-country surgery means that patients often must spend their life savings or raise money through a bank loan, remortgaging their houses, or asking family members for money. Both Tara and Vera set up a fund-raising campaigns.

Murphy said that inadequate or dismissive treatment of Tarlov cyst patients can leave them desperate, or even suicidal.

“In Canada, doctors can get away with treating patients very badly because they have so many patients,” he said. “Unfortunately, our patients suffer.”

But Murphy also expressed strong opposition to out-of-country surgeries. “I don’t believe in the medical tourism that’s going on. There are too many operations being performed. Our doctors in America often treat this as a cash cow, performing surgeries on everyone, sometimes causing harm to patients. This is a serious issue because commercially-oriented American

physicians can exploit patients, leaving them in worse conditions. I've seen many patients return from U.S. surgeries devastated, suffering from bowel and bladder issues; some are even in diapers. Worse still, some patients travel to places like Cyprus for surgery, and no one knows what's happening in places like that."

He encouraged Tarlov cyst sufferers not to assume that going to the U.S. is a solution. "Many of those patients are coming back no better but financially poorer – significantly poorer," he noted.

"Personally, I am not aware of a case in Canada where a patient who had surgery [with me] ended up paralyzed," said Feigenbaum.

It is possible to experience some weakness or numbness that wasn't present before surgery, but the goal of the procedure is to relieve pressure on the nerves and give the body a chance to heal them. That's the intent, he added.

Patients with symptomatic Tarlov cysts have nerves that have been compressed and injured. It's similar to any spinal pathology that puts pressure on nerves and causes damage, said Feigenbaum.

"As surgeons, we can go in and relieve that pressure—for example, by treating Tarlov cysts that are pressing on the sacral nerves—but we cannot heal the nerves themselves. We simply don't have that technology. Only the patient's body can heal the nerves, and so far, nobody has figured out how to heal somebody's nerves for them."

Because of this, Feigenbaum added, the recovery process after surgery is often a mixed picture. Some symptoms improve right away, while others take weeks or months. Depending on the extent of nerve damage, some may not improve at all. In cases where the nerves are severely injured, the body may not be able to heal them fully.

Additionally, some symptoms can temporarily worsen due to nerve irritation from the surgery itself.

"From my data, 70 to 80 per cent of patients experience significant improvement in sacral, buttock, and leg symptoms, including an increased ability to sit for longer periods. The percentage of patients who report worsened symptoms is usually in the low single digits," he said.

Feigenbaum notes that the decision to undergo surgery is a difficult one for patients. If their nerves are being continuously compressed, and they've exhausted other treatment options with no relief, they're left with a choice: continue deteriorating or take the risk that surgery could place them in the category of 70–80 per cent who improve, rather than the small percentage who experience worsening symptoms. It's a deeply personal decision, and those who haven't been in that position may struggle to fully understand what it's like to weigh those risks while watching their quality of life decline.

"In tracking several hundred patients for two years post-surgery, we found that 70 to 80 per cent experienced significant improvement in sacral, buttock, and leg symptoms, 60 to 70 per cent saw improvement in symptoms in the private areas, and 50 to 60 per cent had better bladder and bowel function. These are the statistics I share with patients so they can make an informed decision, weighing both the risks and the potential benefits," said Feigenbaum.

Tara, who travelled to Cyprus for surgery by Feigenbaum in October, said two other Canadians were also in the Cypriot hospital with her. "They came to get surgery because they were also not receiving care back home," she said.

Vera was treated by Feigenbaum in 2023. "Everything about the experience was positive for me," she said. "It was very well-organized, and they took great care of me." She added, however, that there is a misconception about Tarlov cyst surgery, as many people assume recovery is immediate.

"Just because I've had surgery doesn't mean I'm 100 per cent better right away. It's not like getting tonsils or an inflamed appendix out," she said. "Nerves take time to heal, if they heal at all. Some people have been fortunate to get surgery soon after symptom onset. However, I was not able to get surgery as quickly as others. I have had this disease a lot longer than some people before getting surgery. My nerves have been compressed by very large cysts for a very long time."

Kayla spoke to Feigenbaum, but has so far decided not to travel to Cyprus for surgery. In part this is because she now has permanent nerve damage. "I know if I had the surgery, I wouldn't go back to the normal self that I was before this happened." But she also worries about complications. "I personally don't want to travel across the world to a tiny island to have spine surgery like that," she said. "What if something were to happen? You're halfway across the world, and you've spent all this money. It's just scary."

Tara's GoFundMe page was updated on December 30, 2024, with a message to those who contributed to her campaign and a new photo of her smiling brightly while holding her dog.

"It's hard to believe that it has already been two months since my surgery, and I'm amazed at how well I'm doing! For the first time in almost 2 years, I can say that I have hardly any pain. I'm finally returning to being active and living my life again, a reality that didn't seem possible just a few months ago. Every day feels like a gift, and I'm so grateful for this incredible turnaround."

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Invisible Pain:

How Arthritis Shapes Daily Life, And How We're Learning to Live Better

By Editorial Team

"You don't look sick."
"But you're so young."
"Isn't arthritis just an old person's problem?"

Ask any Canadian living with arthritis, and they'll regurgitate a litany of refrains like these. For over 6 million Canadians (many of them young adults, many more middle-aged workers and even children) with the disease, arthritis isn't just a matter of joint pain—it's about broken dreams, diminished independence and a daily struggle with fatigue, inflammation and emotional upheaval.

In this feature, we take a deep dive into the everyday impact of arthritis. We speak to patients and experts about how arthritis is re-shaping day-to-day life in Canada, why this issue is more than skin deep, and how we're finally starting to learn how to live better.

Beyond the Stiff Joints: What Living with Arthritis Really Feels Like

Imagine if you couldn't depend on your body to work the way it used to. You might wake up with arthritis in Canada in the morning wondering if your hands will work properly enough to brush your teeth or if your knees will allow you to take the stairs. For people living with inflammatory forms of arthritis like rheumatoid arthritis (RA), psoriatic arthritis, ankylosing spondylitis or other autoimmune diseases, the pain can come on suddenly without warning, turning basic daily tasks into logistical challenges.

“It’s challenging to describe the level of exhaustion that people who have never experienced it can’t fathom,” says a patient whose quote was published on a national arthritis patient forum. “It’s 10-hour sleeps and waking up feeling like I just ran a marathon.”

Fatigue is one of the key symptoms of arthritis, but it is more than just tiredness. As RheumatoidArthritis.net describes, the all-body fatigue that comes with arthritis and other autoimmune conditions is a crushing exhaustion that seeps into every aspect of life. As well as physical mobility and dexterity, arthritis fatigue can sap your concentration and energy, strain your moods and your relationships, and impact your entire quality of life.

Add in the mental health challenges, and it’s no wonder the Arthritis Society Canada reports that nearly 50% of people with arthritis experience anxiety or depression as a direct symptom of their disease. The sense of alienation, shame and frustration that patients describe is often heightened by stigma and disbelief from peers, employers, medical professionals and others in their daily lives.

The Emotional Toll of an Invisible Illness

A key reason why arthritis can be so frustrating? It’s an invisible illness.

“I don’t look sick,” says Harpreet, a 29-year-old with psoriatic arthritis. “If I make plans, I have to cancel them at the last minute because my wrists won’t let me hold a coffee cup. But people think I’m just being lazy and flaky.”

In a survey report we found on file titled “Talking About Arthritis Pain in Daily Life”, patients shared their daily realities of pain and how it affected their social lives. One patient reported feeling “ashamed” of their symptoms, which prevented them from participating in work or social outings that were a regular part of their pre-arthritis life.

Fear of being misunderstood, of seeming weak, of appearing lazy was a recurring theme in the survey responses. Some patients noted that they “hid” or downplayed their pain or their disabilities. When their arthritis forced them to disengage from their careers or their hobbies, some of them also withdrew from friends or romantic partners.

Work, Family, Identity—How Arthritis Reshapes Daily Routines

The painful irony of living with chronic pain is that it doesn’t just cause physical discomfort. It causes an identity crisis.

Multiple survey responses noted the loss of careers and goals that are “too slow to come back." One mother of two lamented that she missed a key milestone in her son's life due to an arthritis flare up. Patients of all ages reported lower levels of social and recreational activities as they experienced more pain and mobility restrictions.

In one patient story that was referenced in a report we found on file from Arthritis Consumer Experts (ACE), a high-performing marketing executive in her 40s switched to part-time work after the pain from typing became too great. That's despite the fact that arthritis is now treated more humanely in most workplaces, and many Canadian companies offer flexible hours, ergonomic workstations, and other forms of workplace flexibility for people living with chronic pain. Too few companies have these supports in place, and in some industries, patients are discriminated against for having a chronic illness in the first place. Arthritis is still the leading cause of work disability for Canadian women, period.

The good news? Pain Management Is Evolving: Hope in New Approaches

For the millions of Canadians living with arthritis, the past decade has brought with it a pain-management revolution. The old "grin and bear it" mentality is giving way to more whole-person, patient-centric approaches that focus on patient education and prevention, as well as emotional support.

◆ Biologic Treatments & Targeted Therapies

For decades, patients with arthritis had few options beyond traditional painkillers and disease-modifying anti-rheumatic drugs (DMARDs). Now, modern medications including biologics and JAK inhibitors are helping many arthritis patients who had no other pain relief options. Targeted to the immune system itself, these drugs can help reduce inflammation and long-term joint damage.

◆ Holistic & Multidisciplinary Care

Doctors are now treating rheumatology as an integrated practice, working closely with occupational therapists, physiotherapists, pain psychologists, dietitians, and other specialists. Patients have better access to multidisciplinary clinics and are now widely supported to pursue telehealth and other treatment delivery models (many of which expanded in Canada as a direct result of COVID).

◆ The Power of Peer Support

Online communities like the Arthritis Society Canada Online Forum, plus newer apps like ArthritisID PRO (where users can document and track their symptoms and access tips and advice from physicians), have made it easier than ever for Canadians to connect and build solidarity with others who have lived with or are living with arthritis.

"I finally felt seen," says a patient in Ontario, whose quote was included in a recent survey report on patient access to arthritis care. "Just being able to say, 'me too' with someone halfway across the country made me feel like I wasn't going crazy."

Systemic Gaps Remain

Yes, it’s good news that we’re making real progress on arthritis. But there are still critical gaps that need addressing:

- Wait Times: Patients still face long wait times (6–18 months in some provinces) for diagnosis and to see a rheumatologist for the first time.

- Drug Access: Many newer biologics and targeted therapies are prohibitively expensive for patients who do not have private insurance coverage.

- Racial & Indigenous Gaps: First Nations and other Indigenous patients, as well as Canada’s racialized communities, continue to face barriers to accessing culturally safe, timely arthritis care.

Living Better—One Small Step at a Time

“Living with arthritis isn’t about giving up the things that matter to you,” says Diane Cook, a physiotherapist and arthritis education provider. “It’s about learning how to listen to your body, pace yourself, and respect your limits—and celebrating the small wins along the way.”

Movement-focused exercise programs (Tai Chi, water therapy, yoga, etc.), an anti-inflammatory diet and lifestyle, sleep hygiene, and a host of other lifestyle strategies can make a big difference. So can assertiveness training, which helps patients advocate for themselves in the workplace, set boundaries in their personal relationships, or even ask for accommodations in public settings.

Final Thoughts: Making the Invisible Visible

Arthritis isn’t a dramatic or deadly condition. But the impact it has on its patients’ quality of life, their financial security, and their emotional resilience cannot be overstated. The good news is that many more Canadians are speaking out about their struggles with arthritis, and more and more providers are coming forward to help fill the gaps.

It’s no longer about just living with arthritis in Canada, it’s about learning to thrive with it.

What Can You Do?

If you live with arthritis:
Explore the many resources out there (like Arthritis.ca), talk to your doctor about integrated care options, and join peer support communities.

If you know someone who does:
Be patient. Be kind. Be there. Understand that their pain may not be visible but your support is a visible difference in their lives.

If you’re in a position of influence:
Advocate for policies and procedures that cut down on diagnosis wait times, make drug coverage more equitable, and improve access to multidisciplinary care and integrated health systems. Because no one should be forced to suffer just because their illness is invisible.

Sources

- Arthritis Society Canada. (2025). Understanding Arthritis in Canada.
- Talking About Arthritis Pain in Daily Life. Internal source.
- Cook, D. (2025). Living Well with Inflammatory Arthritis.
- httpsiiihjhgjhvjhbv.docx, httpsff.docx, https99.docx, httpsmmm.docx, httpsygc.docx — Internal reports on arthritis management, patient stories, and healthcare strategies.

Knowledge is Prevention:

How Canadian Communities Are Empowering Each Other Through Health Education

By Editorial Team

In a world where medical breakthroughs often take center stage, there is a quieter but no less powerful revolution happening across Canada—a grassroots movement that treats knowledge as medicine, and prevention as the most powerful form of care. From Indigenous communities in the North to urban neighborhoods in Toronto and Vancouver, health education is becoming the first line of defense against disease, misinformation, and systemic inequities.

September, with its crisp air and fresh routines, offers the perfect moment to reflect on how health literacy and community-based education are reshaping Canada's public health narrative—not just in hospitals and clinics, but in schools, community halls, and even kitchen tables.

The Power of Knowing: Why Health Education Matters

Health education is more than a poster in a waiting room or a lecture in a classroom. It's the knowledge that healthy food choices reduce chronic disease, that movement protects mental health, that preventive care saves lives—and most importantly, that every individual can take charge of their health with the right tools.

Canada's Healthy Canadians and Communities Fund (HCCF) has shown that empowering communities with accurate, accessible information leads to measurable improvements. Initiatives supported by the fund have included walking groups for seniors, culturally responsive diabetes prevention programs, and mental health literacy workshops for youth—all built around the belief that knowledge drives action.

Local Communities Taking the Lead

What's inspiring is not just what's being taught—but who is doing the teaching. Across the country, local leaders, volunteers, and community health workers are at the helm. They know the unique needs of their neighborhoods better than anyone.

In British Columbia, peer-led projects are helping recent immigrants navigate the healthcare system and understand their rights as patients. In Manitoba, Indigenous Elders are bringing traditional healing practices into youth wellness education. In the North, outreach teams are teaching food safety and nutrition in remote communities where access to fresh produce is limited.

This bottom-up approach—where communities lead and professionals support—is reshaping the traditional public health hierarchy. And it's working.

Health Promotion as a National Competency

The Canadian Public Health Association (CPHA) and Public Health Ontario are spearheading the professionalization of health promotion, embedding it into the fabric of Canada's healthcare framework. Their guidelines call for a focus on upstream, equity-based education—where the aim isn't just to treat illness, but to address the social, economic, and cultural determinants that cause it.

These organizations are also helping to build the skillsets of the next generation of health promoters, with tools like the Canadian Public Health Core Competencies and Physical and Health Education (PHE) Canada's Competency Framework. These resources empower educators, social workers, and community leaders to act as change agents who spread awareness, challenge misinformation, and advocate for better health outcomes.

Indigenous Knowledge & Community Readiness

No conversation about community health education in Canada is complete without acknowledging the leadership of First Nations, Inuit, and Métis communities. Long before western public health models emerged, Indigenous people practiced holistic wellness approaches rooted in land, language, and intergenerational wisdom.

Organizations like the Canadian Aboriginal AIDS Network (CAAN) are not only preserving this knowledge but also integrating it into national conversations around health education. Their Community Readiness Toolkits help Indigenous communities assess their needs, strengths, and preparedness to engage in health promotion in a culturally meaningful way.

Meanwhile, the Indigenous Youth Well-Being Report from the Rideau Hall Foundation underscores how critical it is to involve youth in the process—both as beneficiaries and as leaders of change. When Indigenous knowledge systems and modern public health frameworks meet, the result is more sustainable, respectful, and resilient health promotion.

Beyond the Clinic: Where Learning Happens

One of the most powerful aspects of health education is that it doesn't require a hospital. In fact, some of the most transformative learning happens outside the healthcare system altogether.

- Schools are now hubs for nutrition, mental health, and sexual education.
- Libraries and cultural centers are offering wellness talks, guided mindfulness sessions, and STI prevention workshops.
- Faith-based organizations are organizing health check-ins and information sessions during community gatherings.
- Digital spaces, from YouTube to TikTok, are increasingly being used to educate the public—especially younger demographics—on topics like birth control, body positivity, mental health, and vaccine literacy.

This decentralization of health education means that people are learning in their own languages, from trusted messengers, and on their own terms.

Health Literacy as a Social Justice Issue

Access to health information is not just a matter of convenience—it's a matter of justice. Many communities—especially newcomers, non-English speakers, low-income families, and marginalized groups—face structural barriers to accessing credible health information. This makes them more vulnerable to misinformation, more likely to delay seeking care, and more at risk of adverse health outcomes.

According to ScienceDirect and BMJ Global Health, countries that invest in community-based health literacy programs see significant reductions in hospitalizations, emergency visits, and healthcare costs over time. But more importantly, they see empowered citizens—people who understand how their bodies work, who can advocate for their needs, and who can make choices based on facts rather than fear.

Building a Future of Informed Wellness

So, where do we go from here?

- Policy makers must continue investing in grassroots health education as a strategic priority.
- Public health professionals need to listen more and prescribe less—working alongside, not above, the communities they serve.
- Communities themselves must be given the space, resources, and respect to lead health conversations that are inclusive, culturally grounded, and evidence-based.

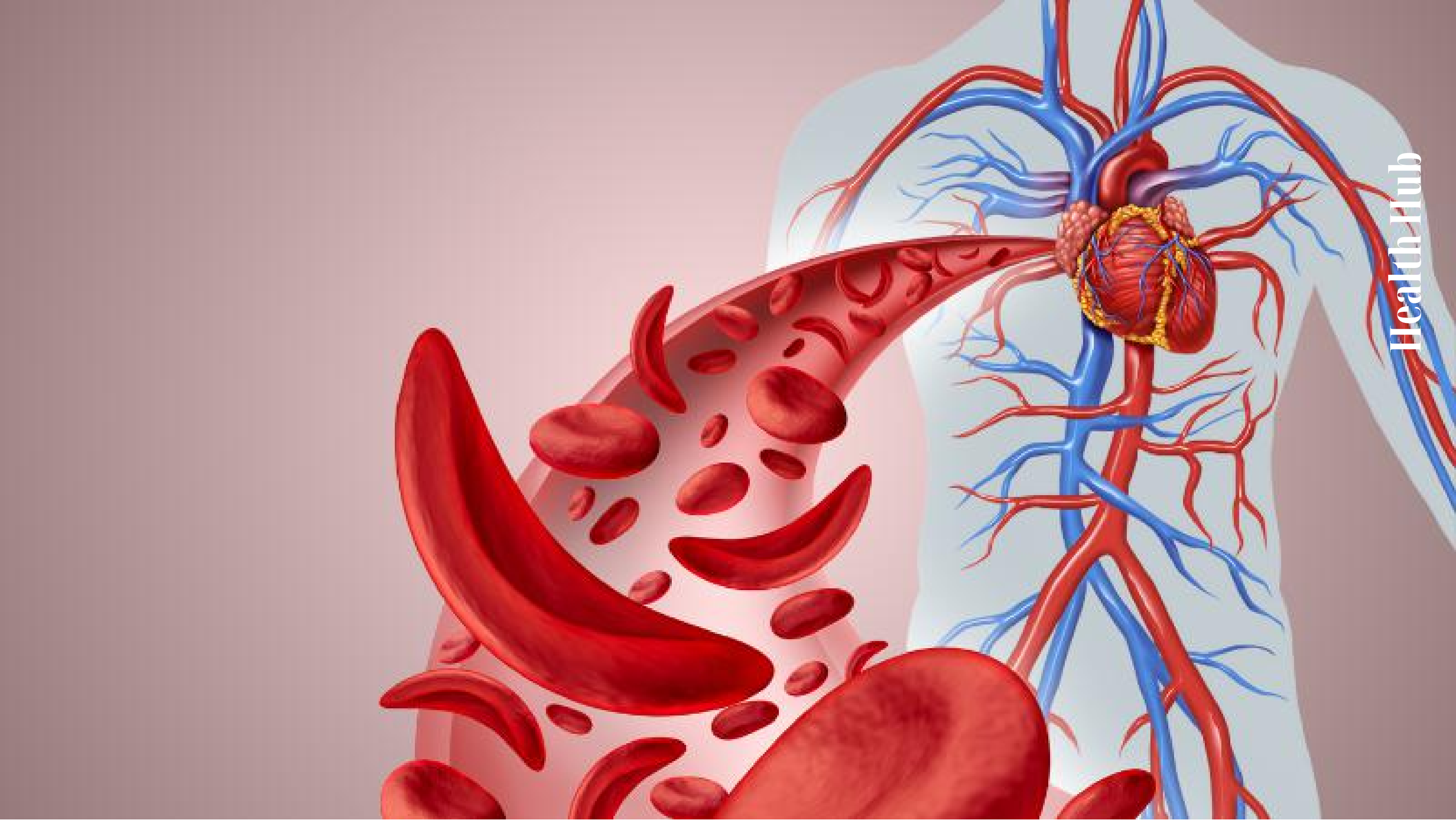
When knowledge becomes the currency of care, prevention becomes possible—and health becomes not just a privilege, but a shared promise.

Resources

- Government of Canada – Healthy Canadians and Communities Fund: Learnings at a Glance
- Canadian Public Health Association – Action Statement on Health Promotion in Canada
- Public Health Ontario – Focus on Foundations of Health Promotion
- Canadian Aboriginal AIDS Network (CAAN) – Assessing Community Readiness
- Rideau Hall Foundation – Indigenous Youth Well-Being Report
- Skills Online Canada – Core Competencies for Public Health
- BMJ Global Health – Community-Led Health Promotion
- ScienceDirect – Structural Interventions for Health Literacy
- Dalhousie ACEWH – Healthcare Access for Immigrant Women in Nova Scotia

Knowledge is Prevention:

How Canadian Communities Are Empowering Each Other Through Health Education



The Hidden Risk of Sickle Cell:

What Every Canadian Should Know

By Editorial Team

Each September, Canada observes Sickle Cell Awareness Month, a time meant to inform and inspire change. But beneath the ribbon campaigns and hashtags lies a hidden truth: for thousands of Canadians living with Sickle Cell Disease (SCD), awareness alone is not enough. This condition—genetic, painful, and often misunderstood—continues to disproportionately affect marginalized communities while facing alarming gaps in support, access, and empathy.

Let’s go beyond the posters and explore the real story of sickle cell disease in Canada—and what urgently needs to change.

What Is Sickle Cell Disease?

Sickle cell disease is a hereditary blood disorder that affects the shape and function of red blood cells. Instead of being round and flexible, red blood cells become rigid and crescent-shaped, blocking blood flow and reducing oxygen delivery to vital organs.
These blockages lead to intense, recurring pain known as sickle cell crises, alongside serious complications like:

- Stroke
- Organ damage
- Infections
- Chronic fatigue
- Reduced life expectancy

And yet, this condition remains underdiagnosed, underfunded, and misunderstood—especially in non-white populations across Canada.

Who It Affects in Canada

According to Sickle Cell Disease Canada, over 6,000 individuals live with the condition nationwide, with many more carriers unaware of their genetic status. The disease is most common in individuals of African, Caribbean, Middle Eastern, South Asian, and Mediterranean descent. Yet, the healthcare system often fails to reflect this reality.

“Sickle cell disease is not rare—it’s just racialized,”
says Senator Jane Cordy, who has championed federal legislation to declare June 19 as National Sickle Cell Awareness Day and bring more national attention to the issue 【SEN.CA】.

Barriers to Diagnosis and Care

Despite being the most common inherited blood disorder in the world, sickle cell disease often flies under the radar in Canada for multiple reasons:

1. Lack of Universal Screening
Newborn screening is not standardized across all provinces, meaning many cases are missed early when intervention matters most.
2. Systemic Bias in Emergency Rooms
Patients with SCD report being dismissed or accused of drug-seeking when seeking pain relief—especially Black Canadians. This results in dangerous delays and substandard care.
3. Limited Specialized Care Centers
Only a handful of clinics in Canada offer comprehensive sickle cell treatment, and long travel distances or financial barriers make regular care difficult for many families.
4. Insufficient Awareness in Schools and Workplaces
Living with chronic pain, fatigue, or hospital visits can affect school attendance or job performance—but SCD is rarely accommodated with the same sensitivity as other conditions.

Research and Progress: Signs of Hope

While challenges persist, Canada is also witnessing a wave of scientific breakthroughs and advocacy milestones:

- At the BC Children's Hospital, researchers have improved long-term survival for children with sickle cell through early intervention, hydroxyurea therapy, and bone marrow transplants 【BCCHR】.
- Canadian Blood Services is working to diversify its donor base, seeking Black and ethnic minority donors whose blood matches are crucial for SCD patients needing transfusions 【CBS】.
- Community organizations like Sickle Cell Awareness Group of Ontario (SCAGO) are offering carrier testing, genetic counselling, and support groups that fill critical system gaps 【SCAGO】.

Voices from the Community

"People think of sickle cell as an invisible disease. But for those living with it, every day is a negotiation—with their bodies, their energy, their pain."
— Advocate featured in UHN Foundation

"We still face barriers accessing care, even though we're doing everything right. It's not just about biology—it's about bias."
— Parent of a child living with SCD, Grandview Kids

What Can You Do?

Whether you're a policymaker, healthcare provider, or simply a compassionate citizen, here's how you can support the cause:

✓ Learn more about the disease and its impact, especially on marginalized communities.

✓ Donate to organizations like SCAGO, Sickle Cell Disease Canada, or local hospitals.
✓ Advocate for national newborn screening and anti-discrimination policies.
✓ Encourage your workplace or school to offer flexibility and accommodations.
✓ Give blood, especially if you're of African, Caribbean, or South Asian heritage.

Final Thoughts

Sickle cell disease isn't just a blood disorder—it's a social justice issue.

As Canada observes Sickle Cell Awareness Month, we must go beyond sympathy and toward systemic change. Access to pain relief, universal newborn screening, culturally competent care, and equitable research funding—these aren't luxuries. They're rights.

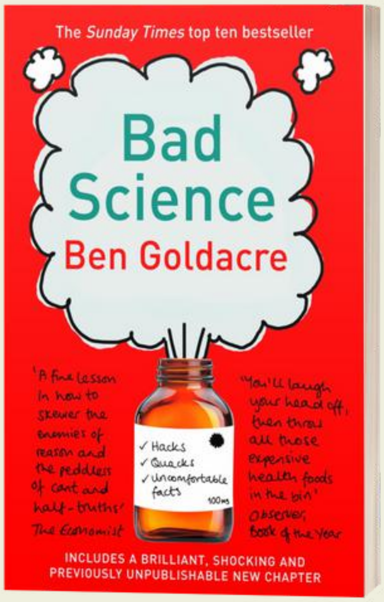
Let's make sure that every Canadian living with sickle cell disease is seen, supported, and given a fighting chance.

Resources & Further Reading

1. Sickle Cell Disease Canada – sicklecelldiseasecanada.com
2. Sickle Cell Awareness Group of Ontario – sicklecellontario.ca
3. UHN Foundation – 5 Things to Know About Sickle Cell Disease
4. Senator Jane Cordy on Sickle Cell – Senate of Canada
5. BC Children's Hospital – Surviving Sickle Cell Disease
6. Grandview Kids – Sickle Cell Awareness Month
7. Canadian Blood Services – Diversity in Blood Donation
8. Sickle Cell Society (UK) – Sickle Cell Awareness Month
9. Canadian Bill S-211 – OpenParliament

BOOK

Review



Bad Science

by: Ben Goldacre

A Tour Through the World of Quacks, Claims, and Questionable Cures

Review By Suman Dhar

Why This Book Matters for Ordinary Readers

Wherever we look, health claims vie for our attention. "Take this supplement for instant energy!" "Use this cleanse to detoxify!" "A glass of red wine a day keeps your heart young!" These claims make good headlines and sensational ads. But how much do they tell us?

In Bad Science, British doctor and writer Ben Goldacre takes us on a lively ride through the world of health misinformation. He shows us how shaky research, clever marketing, and media excitement distort our understanding of science. This isn't a book for medics in white coats. It's for you and me — people who simply want to make sense of the flood of health advice coming our way every day.

Goldacre has a rare gift. He writes about complicated science without being boring. He is funny even when he reveals how easily we are fooled. And he gives us tools for spotting the deceptions so we can protect ourselves.

The "Oh No, Not That Too?!"" Moments

There are many remarkable examples in the book. Some are especially meaningful to Canadian readers:

- Vitamin Hype: Walk through a Shoppers Drug Mart and the shelves are lined with supplements promising better memory, better concentration, and glowing skin. Goldacre shows how these claims tend to be founded on cherry-picked science. A study of 20 people could be turned into the headline "Fish Oil Improves Brain Power" even if larger, better-designed studies detect no effect.

- The Detox Myth: Foot baths, juice cleanses, and designer powders are marketed as ways of "detoxifying" your body. Goldacre dispels the myth with bitter humor: your body already includes a detox system — your liver and kidneys. Buying a $40 detox drink is the same as paying someone to sell you an umbrella when you're inside.

- Media Madness: Goldacre rips into headlines like "Chocolate Cures Cancer" or "Broccoli Beats Heart Disease." In every case, the story typically traces back to one small, poorly designed study that is touted for clicks and sales. Ring any bells? Think about how Canadian news outlets sometimes repeat stories without asking if the science actually holds up.

- The Placebo Puzzle: After deriding charlatans who promise the impossible, Goldacre admits something interesting: belief itself can make us feel better. Placebos — sugar pills, sham treatments, or even merely reassuring words — fairly often ameliorate symptoms. But that is a long way from curing disease.

Why We Keep Falling for It

Some of Goldacre's charm lies in the fact that he never blames regular people for being misled. The real culprits are systems that incentivize hype over reality. Media organizations hunger for attention. Businesses hunger for sales. Self-proclaimed gurus hunger for power. In that competitive market, cautious science is hardly ever given a hearing.

Goldacre shows us science not as facts, but as a process — slow, cautious, and self-correcting. He reminds us that one study is never the whole story. Science builds up like a recipe: it needs many good ingredients, tried many times over, to make a reliable dish.

Analogies That Stick

Goldacre is at his best when using down-to-earth metaphors. Here are some that stuck with me:

- Science as a Recipe Book: One experiment is just one ingredient. Only when lots of experiments are attempted together are we served the whole meal.
- Statistics as Funhouse Mirrors: Figures can be stretched, cropped, and tilted until they reflect exactly what an advertiser wants you to see.

- Doctors as Referees, Not Magicians: Medicine works in terms of rules and evidence, not miracle shortcuts.

These analogies make complex ideas easy to understand and remember, even for readers who haven't studied science since high school.

Questions Worth Asking at the Dinner Table

Bad Science will leave you wanting to ask questions — not in some boring academic way, but in the way you would in a lively discussion over a meal or a cup of coffee:

1. Why are we so attracted to miracle cures, even when we think they are too good to be true?
2. Should learning to read health news be a part of basic literacy in Canadian schools?
3. What is the media's responsibility in fact-checking health stories prior to publication?
4. Can placebos have a healthy role to play in modern medicine if we are honest about it?
5. How do we balance open-mindedness to new possibilities with skepticism toward untested assertions?

The Emotional Punch

For all the humour, there is a serious sting to this book. It hurts to recognize how regularly we have depended on awful evidence. Maybe we bought some mega-expensive supplement, shared a miracle headline on Facebook, or worried about an overblown risk.

But the book also sets us free. Once you see the smoke and mirrors, you are not so easily fooled. You learn to wait, to say, "Show me the evidence." You're empowered to challenge clever ads and suspect gurus.

Goldacre never does tell us all to become scientists. Instead, he gives us easy habits. Look for large, replicated trials. Distrust absolute claims. Look who might profit from a story. These habits form a kind of everyday armor against bad information.

Why Canadian Readers Should Care

In Canada, we are in a country where we trust health professionals and believe in universal healthcare. But we're just as susceptible as anyone else to wellness trends, online misinformation, and media sensationalism. From detox teas peddled on Instagram to vitamin hype on pharmacy shelves, the need for keen thinking is constant.

Bad Science offers us just that — logical reasoning, with a pinch of humour. It serves as a reminder that science is the best friend of hope. Good science saves lives, if only we can safeguard it against manipulation.

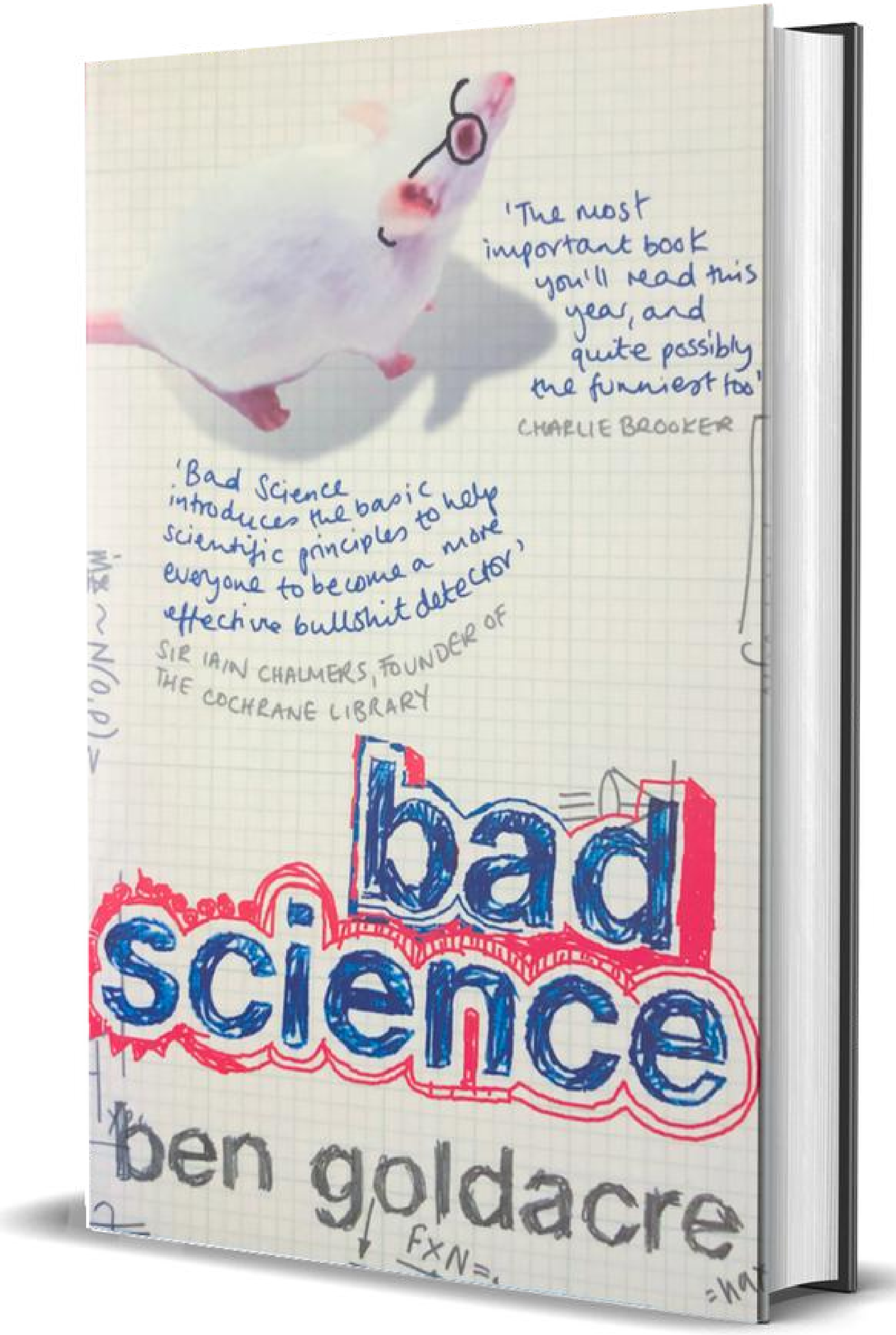
The Verdict: A Must-Read Vaccine Against Health Hype ★ ★ ★ ★ ★

Ben Goldacre's *Bad Science* is not just a book. It's a survival guide for the health consumer of today. It arms us with skepticism, wit, and curiosity. It's the kind of book that makes you double-check what you put in your body and what you share on social media.

Hot Take for the Group Chat:

Goldacre just made me side-eye half of the bottles in my kitchen cabinet. I'm pretty sure I have to take a few things back to Costco."

P.S. If you have a family member who falls for every forwarded WhatsApp solution, gift wrap this book. Consider it a public service.



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