THE FUTURE OF HEALTHCARE

3 STEPS TO IMPROVING CANADA’S HEALTHCARE SYSTEM

REMARKABLE INNOVATIONS TRANSFORMING PATIENT CARE

Imagine a future where medical devices the size of a Tic-Tac could regulate your heartbeat or a simple blood test could predict a serious health condition within seconds.

WORLD LEADING care, research and teaching at Providence Health Care

Who relies on St. Paul’s Hospital?

Hundreds of thousands of British Columbians, including our most vulnerable and marginalized citizens, benefit from the world-leading care, research and teaching taking place at our provincial resource, St. Paul’s Hospital. It’s the people who care about St. Paul’s who keep us strong. Join us. Support our work at www.helpstpauls.com.
The quest to provide the highest quality of care is underway. The necessary measures focus on seamless communication and increased accessibility—for British Columbians and all Canadians.

Transformation of the system is necessary to move forward

Each of our six Health Authorities, the Ministry of Health Services, professional associations and emergency services share a critical role in re-shaping British Columbia’s health system. While the call for change is not new, there are systemic challenges that need to be addressed—a wide array with a complex of priorities, to increase patient demand for service driven by an aging population and a growing chronic disease, smaller and less available workforce, emergency, technology, and limited support. The healthcare system needs to fund the change. Compounding these challenges, citizens expect continual, if not higher, levels of service in spite of contrained resources. Limited support for the advancement of secure standardized electronic health records found in your doctor’s office are essential building blocks in the process of re-shaping our healthcare system. Innovation, leadership and collaboration lie within this doom and gloom scenario. However, the seeds of transformation are realized. The General Practice Services Committee (GPSC), developed to improve the primary care system, has four overarching program components: The Family Practice Incentive Program enables physicians to take the extra time required to manage their chronically ill and complex patients, provides additional resources to support maturation of care, and funding to help newly qualified doctors establish practice in underserved areas of the province. Through the Practice Support Program, physicians participate in learning modules to redesign their clinical practices to make them more efficient and shorten the wait times. Divisions of Family Practice were developed to work with patients to identify and reduce the number of patients that can fall through the health system's gaps—notably the elderly and other vulnerable patients—at the community level. And CIHR, a healthcare resource director that GPs can use to refer patients to specialists as well as non-medical based services such as addiction counsellors and district nurse within a particular geographic region.

The good news? Ricky lived to tell the story.

Innovation, leadership and collaboration have been driving changes in the way physicians deliver care to patients that has not impacted the delivery of care to the patient's journey in our healthcare system. The BC government and the BC Medical Association are at the forefront of change and have collaborated since 2004 to bring sustainable, affordable and provincial health services programmes to British Columbians.

An essential building block in the process is the use of technology. Key to the advancement of secure standardised electronic medical records (EMRs). The electronic version of hand written medical records is one piece of seven essential components of our BC health system. The others include electronic health records, electronic laboratory and diagnostic test results, electronic prescriptions, public health University Professor Zhou Lin of the University of the Science and Technology of China in Beijing who predicted the future using bodily fluids. Even this has left a critical role in re-shaping British Columbia’s health system.

Despite some patients having to manually adjust their stimulators, the study showed that patients were able to be driven by participants. The study highlights the trend of using bio-implants to monitor movement and function. Doctor's medical technology’s future is completely wireless, characterised by all-powered devices. "Medical technology is the future of neurology, the brain's ability to repair itself, expand, and change," he says. The study led the team to predict the demise of batteries when scientists learn how to better convert the brain's energy into electronics.

Mini Jetha, MD
Associate Partner
Nasir Jetha, MD
B.C. Medical Association

Translation of plans into a hierarchical and existing programs and projects by best alignment to desired outcomes and return on investment. Recognize that people, relationships and the systems of care are core elements in change delivery. Delicate or elaborate funds and ultimately standardized funding to drive and sustain change effort. Develop standardized performance management that directs courses correction and means to intended outcomes. Support and even force tough decisions. Listing these requirements is the easy thing, putting them in place is tough and takes time.

"The ultimate vision is to have the most cost-effective, widely available lab test that can give you very personalized information on each patient."
British Columbia’s community laboratory for over 50 years

BC Biomedical Laboratories is dedicated to improving patient health in British Columbia. We are committed to providing you with diagnostic health care of the highest calibre and are proud to promote the overall well-being of our patients, our employees and the communities we serve.

To serve you better, we have 45 Patient Service Centres across the Lower Mainland.

For a complete list of our locations, please visit www.bcbio.com.

Your laboratory test results make up more than 3/4 of your medical record

For more than 10 years, Excelleris has been using the latest technology to get the majority of this important information into the hands of your physician safely and as soon as it’s available.

We deliver more than 7 million laboratory results annually, directly to doctors like yours via our secure portal, LaunchPad™, or via secure integration with any of the Electronic Medical Records systems in active use in BC.

In February 2010, Excelleris launched my ehealth in response to the growing demand by patients for secure, electronic access to their laboratory results. Today, more than 110,000 patients use the my ehealth service to view and print this critical personal information. You too could be using this service if you’ve recently visited either a BC Biomedical or LifeLabs community laboratory in BC.

Beat Colorectal Cancer.
Get Screened. Get FIT

Colorectal cancer is the second leading cause of cancer-related deaths in Canada. But, it is also one of the most preventable forms of cancer. If screened and caught early - the chances of survival increase by 90%.

FIT Testing is an immunochemical fecal occult blood screening method that is highly sensitive, requiring just one sample, reducing specimen collection time and providing faster results to physicians and patients.

The Canadian Association of Gastroenterology and the Canadian Digestive Health Foundation recommend individuals aged 50 years and older, who do not have a family history of colorectal cancer, be screened at least every 2 years using a fecal occult blood test - the preferred method.

LifeLabs provides results electronically to physicians through Excelleris. Patients can access FIT test results by registering for and using my ehealth.

What are the benefits?

- Routine screening increases survival rates by detecting colorectal cancer early
- Ease of sample collection ensures patient compliance
- Patients can collect the sample with ease and no interruption to daily routine
- Only one sample is required
- There are no restrictions on diet or medicine

The best screening test is the one that gets done*
Biopsies are known to be an invasive procedure that can leave a patient feeling traumatized and increasingly vulnerable. A new procedure is employing the use of biomarkers to make treatment a kinder, gentler process.

A marked improvement in diagnosis

Gordon Allan, 58, was born with a congenital heart defect that deteriorated sharply in his 40s, requiring him to undergo both a heart and a kidney transplant about 10 years ago.

However, it is not the surgeries that stand out in his mind as much as the numerous biopsies he had to endure, which he describes as "traumatic." "The procedures are invasive and made an already stressful situation even more stressful," he says. Equally overwhelming for him was the specialized equipment set-up and the number of healthcare professionals in the room for each biopsy.

While tissue biopsies may never be totally done away with, exciting new research is pointing the way to a gentler, more precise way of reading the body's signals, according to doctors.

Biological signatures

Disease prediction or diagnosis often starts with a laboratory test that is usually applied to a blood, urine, saliva or tissue sample.

"However, the challenge is assessing the sample so sensitively and specifically that it truly reflects the key workings of a patient's health," explains Dr. Bruce McManus, director of the Centre of Excellence for Prevention of Organ Failure (PROOF Centre), based at St Paul's Hospital.

"The ultimate vision is to have the biomarker science translated through the healthcare system. We do stand on the promise of breaking through to a whole new level of understanding," says McManus.

The PROOF Centre

Allan is involved in the financing of investment of real estate and fund management services. He is also on the Translation Advisory Committee (TAC) to the PROOF Centre board of directors. The TAC reviews all proposals submitted to the PROOF Centre to assess if they can be commercialized and translated through the healthcare system.

The ultimate goal

Ultimately, biomarkers will reduce the direct and indirect costs to patients and to society. "Multiply this effect across a myriad of diseases that cause heart, lung and kidney failure and you get an indication of how important this field of research is, not just in terms of savings, but also for the individual person and their health outcomes. We do stand on the promise of breaking through to a whole new level of understanding," says McManus.

"The ultimate vision is to have the most cost-effective, widely available lab test that can give very personalized information on each patient. That's the PROOF Centre's dream, not just for Canadian medicine, but globally!"

**Facts**

- **Definition:** Biomarkers are biochemical features that can be used to measure a disease's progression, treatment efficacy or normal biological processes to confirm the absence of disease.
- **Goal:** Replacing tissue biopsies with accurate, reliable blood tests.

**INSPIRATION**

WE ARE CULTIVATING HEALTH THROUGH BIOMARKER SCIENCE. JOIN US.

Our unique approach: Driven by clinical need, committed to clinical implementation

The PROOF (Prevention of Organ Failure) Centre of Excellence is a not-for-profit hub dedicated to finding new, cutting-edge treatments to confirm the absence of disease.

By embracing a cross-disciplinary team of people and uniting organizations, we can speed up the development of new tests, applying them sooner to improve and save lives.

Learn more about our different programs related to aliments like COPD, heart failure, and chronic kidney disease at www.proofcentre.ca

**Dr. Brian Kwon, orthopaedic surgeon and spinal cord injury researcher, Vancouver General Hospital**

**AN INDEPENDENT SECTION BY MEDIAPLANET TO THE VANCOUVER SUN**

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HIV/AIDS remains a major global health challenge, affecting 33 million globally. With traditional testing methods, it is common for people in less developed countries to travel far for an HIV test and then cool their heels for several days for the results.

But travelling time, the situation is not that different in Canada.

However, a BC-based firm, bioLytical Laboratories, has created a point-of-care HIV antibody test that delivers accurate results within 60 seconds. The test, approved for use in Canada in late 2005, received US FDA approval last November, says Dr. Christopher Shackleton, bioLytical adviser.

People do want to know their HIV status—especially with the availability of effective treatment options to manage the disease, he says. “We have seen a paradigm shift in the fight against the HIV epidemic to one of routine testing and a seek-and-treat philosophy. Increasingly, patients want to know how to manage their situation and point-of-care rapid testing is a cornerstone of this approach.”

bioLytical is currently developing and expanding its point-of-care rapid-test technology to detect other infectious disease biomarkers, Shackleton said.
In the past 40 years, a major change has occurred in the profile of the “typical” patient, from someone with an acute illness to someone with one or more chronic diseases. Leaders are now required who can shift the system toward community and home-based care, with patients more engaged in their own health. Patients will require an integrated approach that links hospitals, general practitioners, clinics, and home care, as well as public and private services. This system needs to be coordinated around a comprehensive individual care plan, supported by technology, and enabled with appropriate funding and incentive models.

An ideal healthcare system is focused on three components: people, sustainability and innovation. First, our system must focus on helping people live longer and healthier lives. This requires access to excellent treatment, confidence that care is safe and comprehensive, and an environment where individuals “own” their health. Sustainability necessitates that policy addresses the system’s funding now and for decades to come. Policy-makers must ask if tax-payers are receiving good value on investments and long-term needs are being considered. Finally, the system should be permitted with a commitment to innovation in prevention, new technologies, and greater self-care.

In Canada, government has a monopoly on medical insurance. Therefore, the allocation of medical goods and services is a political decision. User fees are unpopular as governments tend toward subsidizing 100 percent of the costs, which leads to unsustainable cost growth. Governments react by rationing, which causes shortages when there are no options to pay primarily. Ideally, we need a competitive market for healthcare that is minimally regulated to achieve universal access to necessary medical treatment, provides means-tested public subsidies, and exposes all consumers to price. Netherlands and Switzerland are examples.

To contain costs has gone to improve efficiencies and shift focus to the effective adoption of information technology and enhancing roles for nurses, pharmacists and other care providers. The focus of the “cost” debate has tended to centre on expenses incurred by hospitals, doctors, tests, fees, etc., and much of the effort to contain costs has gone to improve efficiencies in these areas. Going forward, we could have much greater impact if we shift focus to the selective adoption of information technology and other levers that shape the healthcare system, enhancing roles for nurses, pharmacists and other care providers.

Innovating service delivery needs to match the innovation occurring in technology and drug development. We must innovate through service delivery. To do this we must provide healthcare that is comprehensive, anytime, any episode. We should help create strategies and solutions to keep people well and treat them effectively. We must also incentivize to meet targeted times for diagnostics, surgery and outcomes of care. This requires leaders who can innovate, learn from mistakes, and be accountable. Healthcare needs people with the vision to do politics the way real challenging realities of our healthcare system.

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In BC, health spending will consume 50 percent of revenues by 2027. We must make health spending sustainable before it bankrupts the province. Federal funding and raising taxes are not solutions. The feds have already transferred billions more than required to keep up with inflation or population growth since the health accord expiring in 2014, and options available to them that are supported by independent medical leadership. What should our priorities be?

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Despite teething problems, more doctors are using technology to support disease diagnosis and management, according to experts.

Electronic medical records (EMRs), though promising to revolutionize medicine, still do not have a robust following in Canada. Unlike New Zealand, where almost 100 percent of doctors are electronically connected, only a third of Canadian doctors use EMRs. However, the figure is higher in B.C.—almost 60 percent—where 80 percent of nurses are already EMR-involved in a patient’s care easier.

Despite the initial start-up issues in some places, patients and doctors are using social media to support patient-centred care. Ho’s team is investigating how social media can be used to support patient-centred care. One of the best known health websites is PatientsLikeMe, established in 2005 by three MIT engineers. The site, which has nine chronic disease categories, enables patients and physicians to share treatment and symptom information. PatientsLikeMe says it has more than 100,000 registered patients who share their data. Physicians and researchers can also access the site to gauge real-world outcomes of medical treatments. However—somewhat controversially—the data is sold.

In contrast, Vancouver-based Tyze Personal Networks, emphasizes its broad-term, covering data collection and storage via EMR in the doctors’ offices, hospital electronic records, or a patient’s personal health record. TeleHealth (the actual delivery of a medical service), and knowledge management. The last refers to the analysis of health data to guide medical decision making, explains Dr. Kendall Ho, the director of the E-Health Strategy Office at the Faculty of Medicine, University of British Columbia.

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There are more than 350 British Columbians currently waiting for a second chance.
Stop the wait. Registering for organ donation takes seconds at transplant.bc.ca