



BUSINESS COUNCIL
OF ALBERTA



Improving Health Care Delivery in Alberta Through Innovation

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Health Cities

**DEFINE
THE DECADE**

Discussion Paper Series



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The Business Council of Alberta is a non-partisan, for-purpose organization dedicated to building a better Alberta within a more dynamic Canada. Composed of the chief executives and leading entrepreneurs of the province's largest enterprises, Council members are proud to represent the majority of Alberta's private sector investment, job creation, exports, and research and development. The Council is committed to working with leaders and stakeholders across Alberta and Canada in proposing bold and innovative public policy solutions and initiatives that will make life better for Albertans.

Land Acknowledgement

In the spirit of truth, reconciliation, and respect, we honour and acknowledge the lands upon which we live and work as guests, including the traditional territories of the First Nations in Treaties 6, 7, and 8 and the citizens of the Metis Nation of Alberta. We thank the First Peoples of this land, which we now call Alberta, for their generations of stewardship of the land, and we seek to walk together in the spirit of truth and reconciliation to build a shared future for all in Alberta.

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About the Author

Reg Joseph was appointed as the CEO of Health Cities in February 2018. He has 20 years of experience spanning the health, technology, and investment sectors. At Health Cities, Reg is focused on developing new pathways for healthcare delivery to drive better health outcomes and economic growth for our region.

Reg has served in a wide variety of roles, including as an analyst with Boston-based Leerink Swann & Co. and as a manager of a global business unit at US-based Invitrogen Corporation (now Thermo Fisher). Reg has founded and led local health technology companies and most recently served as Alberta Innovates' Vice President of Health, managing outgoing investments from the Heritage Fund.

In addition to serving on multiple boards of health technology companies, Reg is currently Chair of the Board of BioTalent Canada and of MacEwan University's Board of Governors. Reg has a BSc. in Physiology and an MBA in Finance.



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Health care in Canada is in crisis.

We all know our health systems are cracking in every direction: in capacity—both human and physical—and in equity, access, and timeliness of patient care.

Without a different approach, the recent funding commitment from the federal government is unlikely to result in much improvement. Rather than seeing the perpetuation of the same problem-plagued health care systems, Canadians want and deserve better.

As Andre Picard pointed out in his recent [Globe and Mail article](#), it's all about money and nothing about the necessary changes to get “medicare back on track.”

Despite these challenges, there is a silver lining.

The pressures that our strained provincial health systems are under make them ripe for disruption—the kind that can result in health care transformation.

How does this disruption occur?

Through innovation—new ways of thinking and doing things in health care policy, funding, and health care delivery at all levels of our health care systems.

In this paper, I will shed light on the crucial role that innovation, including innovative technologies, can play in driving transformational change in health care delivery.

The Opportunity: Why Not Alberta?

Innovation is often birthed through crisis. For example, when clinics were shuttered during the pandemic, that crisis catalyzed the uptake, adaptation, and innovation of virtual care tools to ensure continued access to health care. Now part of our daily lives, virtual care has transformed one area of health care delivery.

The question remains: how do we build on micro-level transformations to bring innovation into the broader system, which historically has resisted change? And how do we change our health systems to embrace innovation as the best way to survive and thrive?

In Alberta, we see many examples of innovation in action. Our thriving health technology sector, for example, is developing world-class solutions to health care challenges. However, the paradox is that while many of our Canadian-grown technology innovations are embraced beyond our borders, they are rarely adopted in our own health systems. The resulting loss of home-grown companies to other jurisdictions is a Canada-wide issue. Neil Fraser, former president of Medtronic Canada, captured this in his [2021 Hill Times](#) article.

Canada is fortunate to have some of the most brilliant medical minds in the world who carry out remarkable research and come up with ingenious ideas for new healthcare delivery models, technologies, devices, and procedures proven to result in better health outcomes for patients. Sadly, barriers and systemic obstacles often prevent these innovations from getting into the hands of clinicians and patients who need them.

Neil Fraser 2021

Failing to capitalize on these innovations is a multifaceted loss for Alberta. Right off the bat, we lose out on public investments made in research. Tax-payer funding that supports these companies and academic institutions should come back in the form of economic growth in Alberta and for Albertans. But when companies leave the province, we lose the tax base, the job growth, and the talent from those companies. And most importantly, we lose out on health care innovations resulting from the uptake of new technologies, preventing them from reaching Albertans who need them most.

At the same time, Alberta spends tens of millions of dollars on medical technologies purchased from non-Canadian companies to deliver health care to Albertans—these range from low-cost consumables like gloves and masks to high-end surgical devices like the gamma knife. According to the Canadian Venture Capital & Private Equity Association (CVCA), over \$150 million has been invested in more than 45 health technology companies in Alberta between 2020 and 2022. With this investment, we can and should be using our own innovative technology and talent to benefit the health and well-being of Albertans and Canadians.

The Right Assets: Technology

Alberta's growing and investable health technology sector is one among many unique provincial assets; other notable assets include our single, provincially integrated health authority and comprehensive, high-quality health data. The challenge though, is creating pathways that connect companies with opportunities to test, validate, and scale within and across the health spectrum to drive health innovation. By establishing pathways in priority areas such as primary care, long-term care, and Indigenous care, and supplementing them with necessary human resources and know-how from established health care companies, we can foster the development and subsequent commercialization of health care solutions (both in Canada and globally), ultimately leading to national sector growth.

Fortunately, Alberta is rich with resources to support the creation of these pathways and empower health innovation. One resource is the technologies themselves. The global revolution in health care transformation is driven by artificial intelligence (AI), machine learning (ML), and immersive technologies and internet of things (IoT). We are poised for that transformation in Alberta with our strengths in these technological building blocks.

Companies such as Medo.ai (now Exo), for example, an imaging company spun out from the University of Alberta's Alberta Machine Learning Institute (Amii), showcase Alberta's prowess in AI and ML. Leveraging our technology strengths and the talent from our post-secondary institutions and entrepreneurial companies, combined with strong innovation pathways, will contribute to health transformation yielding better health outcomes and economic growth.

But our 20th-century barriers are holding us back. Take, for example, Calgary-based [Kent Imaging](#). Its hand-held imaging device, which measures tissue oxygen saturation, has proven successful in the treatment of chronic wounds resulting from diabetic ulcers or other circulatory ailments. Chronic wounds are costly to treat and, if unresolved, can lead to high rates of limb amputation. Kent Imaging has successfully penetrated US and international markets. While Kent Imaging has received Canadian funding support from sources such as PrairiesCan, Canadian sales of the technology are not at the scale of those in the US, even when accounting for the larger American population. One of the barriers in our country is the glacial process for health system procurement. Addressing these barriers means that Albertans suffering from circulatory problems, diabetic ulcers, or other chronic, hard-to-heal wounds could access and benefit hugely from imaging technologies such as Kent's.

The Right Assets: Data

[Data](#) is another of our valuable provincial assets. We have a gold mine of health data that begs to be used and shared, both within Alberta and between other provinces, to help power health care transformation. The struggle has been the creation of environments for "safe data" that will preserve privacy yet provide access for those in the community, academia, and industry who are working together to co-develop novel approaches and solutions to our largest health issues.

With recent advances in powerful tools like synthetic data, the full potential of data can be harnessed without compromising safety or privacy. By using technology platforms such as machine learning, algorithms, and predictive analytics, synthetic data can identify and model innovations without requiring real time data. If we combine our assets with powerful tools like synthetic data and data sharing, home-grown solutions can be used to solve similar challenges nationally and globally, allowing these companies to scale to other markets.

Bold Innovation Leadership: For Alberta's Future

Alberta has no shortage of success stories, with numerous companies bringing their innovations to market. Through these success stories, we can learn how we can help better support our innovators, leveraging their for the betterment of all Albertans.

The key to unlocking the potential and opportunity from innovation is bold leadership from all quarters. A framework that encompasses leadership from successful government and policy partners, health care organizations (including primary care networks and home care organizations), and the business sector is urgently needed to guide adaptation of innovation in our health system. Such a collaborative framework would de-risk opportunities to effectively test, try and scale innovative approaches and technologies here in Alberta first. Only then can we position our companies competitively for Canadian and global markets.

This will result in the most important impact of all: providing health benefits back to Albertans.



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Define the Decade is a vision for the future of Alberta and a roadmap to get there. To learn more about this project and how you can get involved, please visit DefinetheDecade.com