

Towards the routine use of genome-based testing in Canada:

# State of Readiness Progress Report



## Why does Alberta need to be prepared for a future of genomic medicine?

**Improved care** – including better health outcomes, reducing harm from therapy, and improving survival and quality of life.

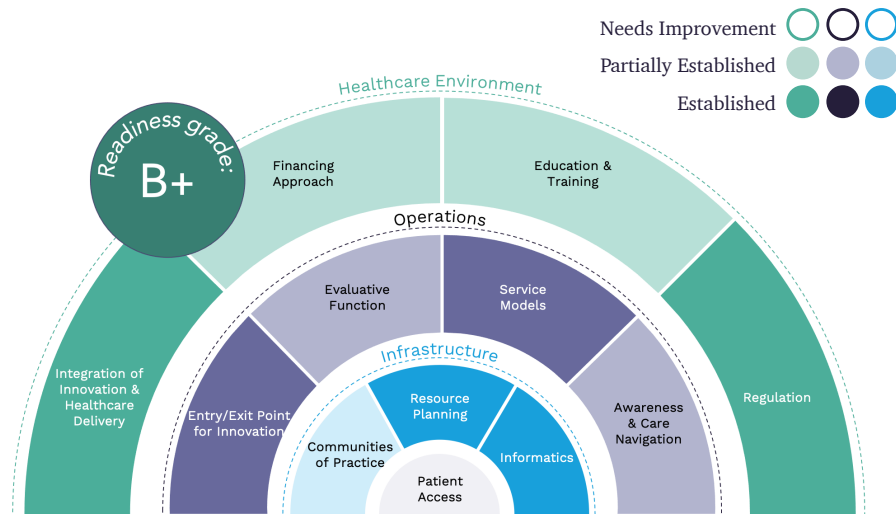
**Better patient and care provider experiences** – reducing the need for referrals and other diagnostic tests, and improving time to diagnosis.

**Better science and economic growth** – aiding scientific discovery and clinical trial enrollment, creating commercial and investment opportunities as well as future-proofing Canada’s healthcare workforce.

**Healthcare efficiency** – genomic medicine creates opportunities to reduce healthcare costs while creating the necessary infrastructure for delivering 21st century care.

Alberta has established many of the necessary conditions (1) required to deliver genome-based testing to best benefit patients. It is leading Canada in its readiness for the coming era of genomic medicine.

However, there are still opportunities to improve readiness.



Its current state of readiness has earned **Alberta a grade of B+**

**Takeaway:**

Alberta has many of the necessary conditions for being ready for a coming era of genomic medicine. It is currently leading Canada in its readiness for the coming era of genomic medicine.

**Strengths:**

- Single service organization (APL) that provides oversight and resource planning.
- Integration of laboratory information across province is established.
- Integration and exchange with innovators through dedicated translational research programs and mainstream use of investigational testing.

**Weaknesses:**




- The test review process, timelines and criteria used are not publicly available.
- There are still opportunities to improve test navigation and educational standards for patients and providers.

Evidence-based best practices	Action
High performing health systems require broad engagement of those impacted by testing. These include the patients, administrators, IT professionals, implementation and genome scientists, public and private sector innovators and others (scientists, legal and ethics experts, professional organizations, bioethicists, regulators) (2)	Expand opportunities for engagement with broader members of the healthcare/innovation community. This may be of particular use for health care planning.
More transparency around the test review process, timelines and criteria, will benefit a broader group of stakeholders. In doing so, it will also more closely adhere to current principles of technology assessment and deliberation (3,4) and improve perceptions of legitimacy for test adoption and create more opportunities for valuable innovation.	Improving the process of deliberation that surrounds the consideration and adoption of tests. Alberta’s “one test-at-a-time” approach may be problematic for operationalizing uptake.
Unlike traditional tests, funding formulas for genetic testing must consider the need for additional human resources associate with development and proficiency testing (5) The current reliance on the private sector to fund test development may be counterproductive as priorities are influenced by who is paying, rather than unmet need, equity, or efficiency (6)	Improving the financing approach to include funding for test development and to account for capital infrastructure, human resources, and other associated costs of testing.

More information about the State of Readiness Progress Report for Genomic Testing in Canada can be found here: [TBD](#)

## Background

Alberta is Canada's fourth largest province by size and by population (approx. 4.2 million). Responsibility for testing is provided by a single organization, Alberta Precision Labs (APL), which is a wholly-owned subsidiary of Alberta's single health authority, Alberta Health Services (AHS). Highly specialized testing is largely delegated to teaching hospitals within Alberta's largest centres (Edmonton Zone and Calgary Zone) depending on program of care, including the University of Alberta, Alberta Children's Hospital, Stollery Children's Hospital, and university of Calgary, Foothills Medical Centre. Testing is also referred to out-of-province providers for rarer conditions.

	Topic	Established	Partially Established	Need for Improvement
 Infrastructure	Creating communities of practice and healthcare system networks	<ul style="list-style-type: none"> <li>Accreditation and proficiency are based on the ISO15189</li> </ul>		<ul style="list-style-type: none"> <li>Processes for engagement with external stakeholders lacking</li> </ul>
	Personnel, equipment, and resource planning	<ul style="list-style-type: none"> <li>Systemic oversight for resources planning through the APL</li> </ul>		
	Informatics	<ul style="list-style-type: none"> <li>Integrated LIS</li> </ul>	<ul style="list-style-type: none"> <li>Projects underway to integrate laboratory and clinical data</li> </ul>	
 Operations	Entry/exit point for innovation			<ul style="list-style-type: none"> <li>No explicit timelines for consideration</li> </ul>
	Evaluative Function	<ul style="list-style-type: none"> <li>Clinical stakeholder engagement through Laboratory Test Formulary committee and Strategic Clinical Networks</li> </ul>		<ul style="list-style-type: none"> <li>External stakeholder engagement lacking</li> <li>Evaluative criteria and process not made public</li> </ul>
	Service Models	<ul style="list-style-type: none"> <li>Service coordination across providers</li> </ul>		
	Awareness and care navigation		<ul style="list-style-type: none"> <li>Test directory and ongoing communication to providers but not all tests (e.g., oncology) listed</li> </ul>	
 Environment	Integration of innovation and healthcare delivery	<ul style="list-style-type: none"> <li>Investigational testing funded as part of larger multigene panels</li> <li>Translational research through Genome AB, and the HIPP/ADEPT program</li> </ul>		
	Financing approach	<ul style="list-style-type: none"> <li>APL has flexibility to release additional funds for testing on a per-case basis</li> </ul>		<ul style="list-style-type: none"> <li>Funding formula not clear</li> <li>No funding for test development</li> </ul>
	Education and Training		<ul style="list-style-type: none"> <li>Training occurs but no province-wide standards for education and training</li> </ul>	
	Regulation	<ul style="list-style-type: none"> <li>ISO 15189-based province-wide accreditation standards</li> <li>Councils for creating analytic standards</li> </ul>		

## References

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