Nova Scotia

*May, 2023*

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

# State of Readiness Progress Report

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

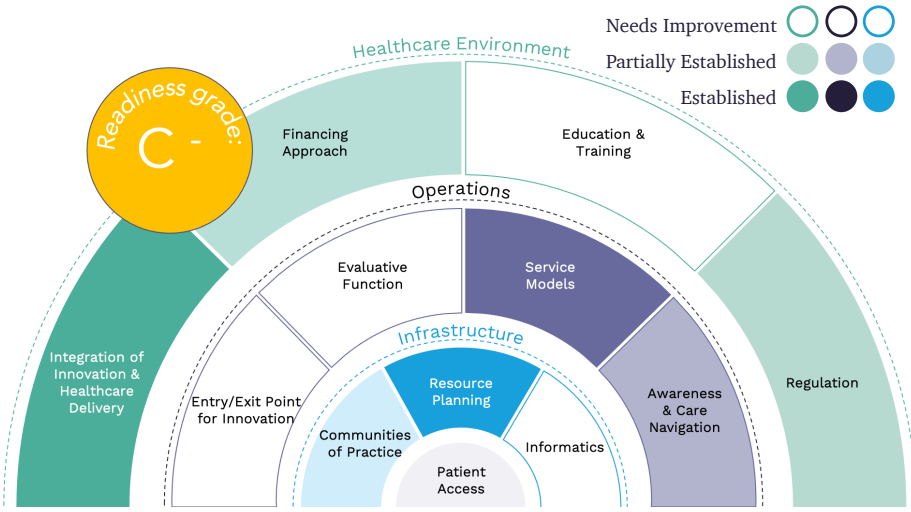
**Improved care** – including better health outcomes, reducing harm from therapy, and improving survival and quality of life.

**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.

Much of the infrastructure for Nova Scotia has been established through a dedicated program and coordination through its key teaching hospitals. Nova's Scotia smaller size relative to other Canadian provinces has also allowed it to have a nimbler financing approach and be an early adopter of investigational testing. However, Nova Scotia still lacks an explicit onboarding process and evaluative approach, conditions (1) that will be required to best benefit patients in the future.




Its current state of readiness has earned **Nova Scotia a grade of C-**

**Takeaway:**
Nova Scotia readiness for genomic medicine is aided by its size and established teaching hospitals. However, many of its processes are opaque and would benefit from further integration and broader engagement with the innovation community.

**Strengths:**

- Dedicated program (PLMP) that provides oversight and resource planning along through key teaching hospitals.
- High level of service coordination.
- Integration of innovative testing

**Weaknesses:**

- No single entry point, explicit review process, timelines or criteria used to consider new tests.
- Lack of integration of laboratory information across centres.
- Limited engagement and involvement of broader stakeholder community.

| Evidence-based best practices | Action |
|---|---|
| Evaluation and adoption of testing must be responsive to innovation, transparent (2), timely and well connected to current investments in translational and discovery research as well as a community of care. (3) | Nova Scotia would benefit from a transparent evaluation process and a single-entry approach, supported by horizon scanning. |
| Informatics is essential for test development, interpretation, and clinical decision support (4,5). Ensuring adequate integration of test results into electronic health records will also provide a key resource for real-world monitoring, disease management, quality assessment and assurance, and financing (6). | A fully integrated laboratory information system connected to clinical health records would provide more benefit to patients and care providers and avoid unnecessary duplication and delay. |
| 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) (7). | There are opportunities to expand engagement with broader members of the healthcare/innovation community, particularly commercial innovators. |

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

*Research support was provided by the following companies: Amgen Canada Inc., AstraZeneca Canada, Eli Lilly Canada Inc., GlaxoSmithKline Inc. (GSK Canada), Janssen Inc./J&J, Pfizer Canada ULC, Thermo Fisher Scientific Inc., and Roche Canada.*

## Background

While Nova Scotia has a population of less than 1 million (less than 3% of Canada's population), it is the most populous province in the Atlantic region. Testing occurs within two major hospitals (Queen Elizabeth II Health Sciences Centre and IWK Health Centre) that deliver specialized care programs as well as out-of-province providers. Oversight for these programs is provided by the Nova Scotia Health Authority (NSHA) through its Pathology and Laboratory Medicine Program (PLMP).

| | Topic | Established | Partially Established | Need for Improvement |
|---|---|---|---|---|
| Infrastructure | Creating communities of practice and healthcare system networks | • Communities of practice exist within specialized programs and PLMP | | • Processes for broad stakeholder engagement lacking |
| | Personnel, equipment, and resource planning | • Systematic oversight for resource planning through the PLMP | | |
| | Informatics | | | • Lack of integration of laboratory information across centres |
| Operations | Entry/exit point for innovation | | | • No single point of entry<br>• Proposals from NSHA personnel<br>• No explicit timelines or reassessment process |
| | Evaluative Function | | | • No broad stakeholder engagement<br>• Evaluative criteria and process not made public |
| | Service Models | • Service coordination across providers | | |
| | Awareness and care navigation | | • Test directory and ongoing communication to providers but not all tests (e.g., oncology) listed | |
| Environment | Integration of innovation and healthcare delivery | • Investigational testing funded as part of larger multigene panels | | |
| | Financing approach | • NSHA has flexibility to release additional funds for testing on a per-case basis | | • Funding formula not clear |
| | Education and Training | | | • No province-wide standards for education and training in development |
| | Regulation | • ISO 15189-based province-wide accreditation standards | • No province-wide analytic standards although care often delivered through a single lab<br>• Proficiency testing voluntary | |

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