#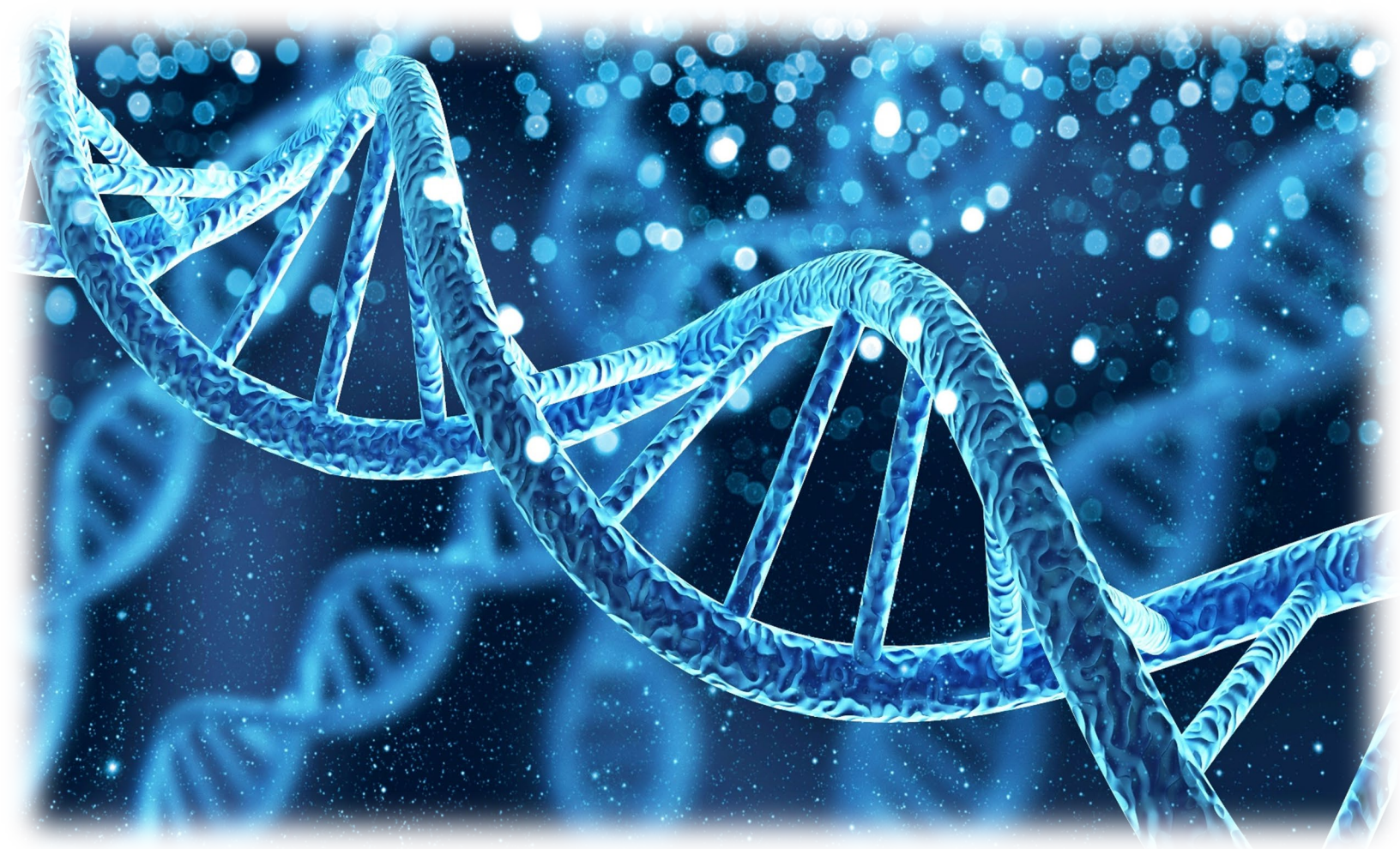 Designing Engagement Strategies for Genomics-Informed Oncology Nursing: Comparative Prospective Cross-Jurisdictional Policy Analysis [DESIGN: Policy]

A Policy Brief for the Canadian Association of Schools of Nursing (CASN) and the Canadian Association of Oncology Nurses (CANO)/Association canadienne des infirmières en oncologie (ACIO)

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About the Issue

Cancer is the leading cause of mortality among Canadian adults, with an estimated 40% of individuals likely to receive a cancer diagnosis during their lifetime. [1] Precision healthcare, which includes genomics, is the clinical application of the understanding of how genomic drivers contribute to the development of cancer, leading to options for preventative cancer risk management, earlier diagnoses and personalized treatments that can improve outcomes. [2-7] Cancer disproportionately affects historically underserved populations, [8-10] necessitating broad and tailored strategic efforts to integrate genomics to ensure equitable access to the benefits of genomics-informed care. Nurses are critical to meet the growing demand for genomic services and to establish coordinated health systems. To enable this work, nurses require clarity on their roles and responsibilities related to integrating genomics into nursing practice and collaborating with interdisciplinary teams.

Professional nursing associations have a crucial role in developing policies and providing guidance for practice, education, and research. There is an urgent need for policy frameworks in Canada to support the integration of genomics into oncology nursing. As partners in a CIHR-funded Policy Catalyst Project, CASN and CANO/ACIO are committed to supporting policy development to further this aim. This brief presents evidence from a comprehensive three-phase study that yielded recommendations to CASN and CANO/ACIO to expedite the integration of genomics into oncology nursing education and practice to benefit all.
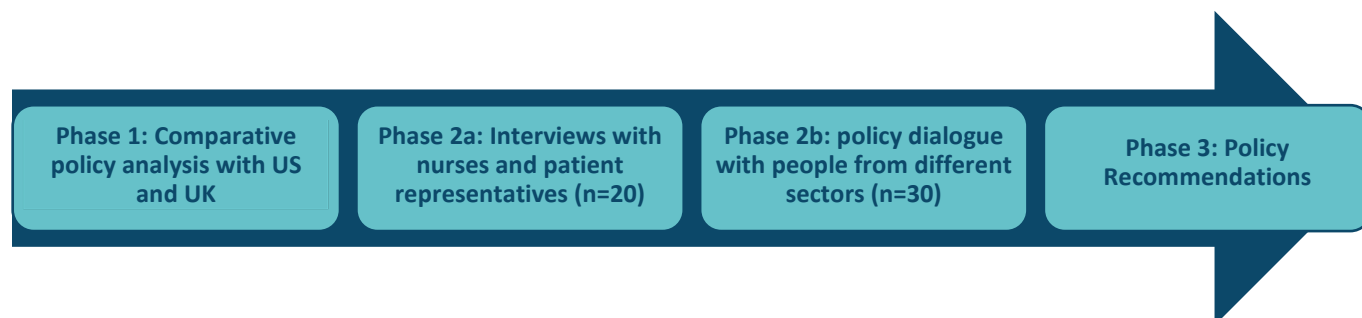
Overview of the Policy Catalyst Research

The goal of this project was to generate evidence to inform policy recommendations for CASN and CANO/ACIO. To achieve this goal, we asked the following questions:

1. What types of policy documents are required to guide and enable genomics-informed oncology nursing education and practice across Canada?
2. What key features (content, characteristics, and structures) are required within the policy documents to ensure safe, equitable and accessible genomics-informed oncology nursing education and practice?
3. What factors can accelerate the development and implementation of policy to guide nursing practice and education to enable the integration of genomics-informed oncology nursing care that aligns with the quintuple aim (enhanced patient and provider satisfaction, population health outcomes, health equity, and cost-effectiveness)?
4. What are the policy implications and priority actions for creating policy infrastructure to support genomics-informed oncology nursing practice and education across Canada?

Figure 1

The Policy Catalyst Research Phases

| Phase 1: Comparative policy analysis with US and UK | Phase 2a: Interviews with nurses and patient representatives (n=20) | Phase 2b: policy dialogue with people from different sectors (n=30) | Phase 3: Policy Recommendations |

Summary of Findings from Phase 1

The Phase 1 comparative policy analysis identified drivers that led to the development of genomics-informed nursing policies in the United States (US) and the United Kingdom (UK) and key policy features in these documents. We found that:

1) Policy[1] infrastructure guiding genomics-informed nursing in the US and UK includes position statements, competency statements, scope and standards of practice, and education frameworks. This infrastructure is similar to the usual nursing policy infrastructure used in Canada, and thus, creating a similar infrastructure could enhance genomics implementation.

2) Drivers that influenced the development of genomics-informed nursing policy in the UK and US included:
   - Sustained involvement from nursing leaders, professional organizations, interdisciplinary groups, health service organizations, funding institutions, and the government.
   - Nurses recognizing the necessity for comprehensive infrastructure to address gaps in knowledge, skills, and competencies to align practice with evidence and public expectations.
   - Understanding that advances in genomic science were contributing to healthcare and shifting healthcare landscapes nationally and globally.

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[1] In this project, we defined policy as statements of direction communicated through standards of practice, competencies, scope of practice statements, position statements, and accreditation standards.

Summary of Findings from Phase 2a

In Phase 2a, we interviewed patient partners (n=3) and Canadian nurses (n=17) from different domains (education, point of care, administration) of oncology practice to learn about the required infrastructure and drivers to accelerate the integration of genomics into nursing practice. We learned that nurses and patients:

1) Want immediate action to enhance nurses' genomic literacy to ensure safe, competent care and clarify nurses' roles, responsibilities, and accountabilities within interdisciplinary genomic care teams.

2) View policy documents, including educational frameworks, competencies, scope of practice standards, best-practice guidelines, and position statements as essential to guide practice.

3) Suggest policies should be developed collaboratively with those most affected and in strategic and intentional ways, including leveraging existing nursing, inter-professional, and cross-sector policies to accelerate the integration of genomics into education and practice.

4) Consider leadership support and advocacy essential for driving action. Engaging leadership within health service organizations and encouraging collaboration across different practice domains can help overcome barriers to integration.
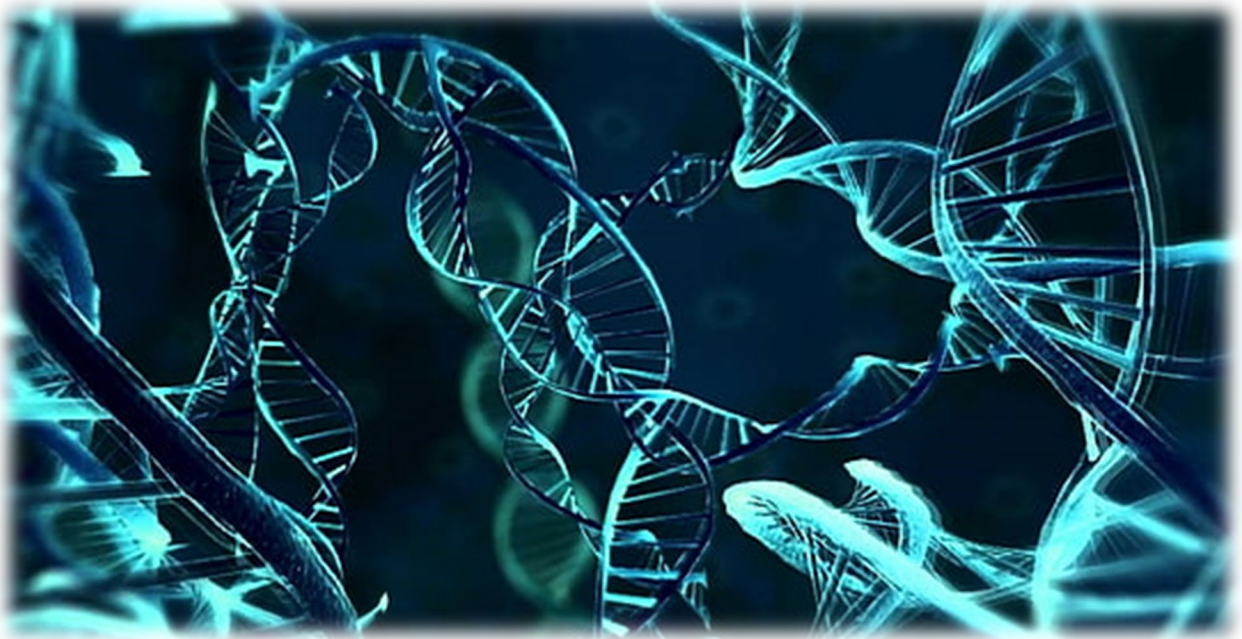
Summary of Findings from Phase 2b

In Phase 2b, we conducted a policy dialogue with Canadian nurses and genomics experts to contextualize our findings from Phase 1 and 2a and identify policy priorities for clinical integration, education, and research. Key ideas included:

Clinical Integration	Education	Research
Develop standards, competencies, and best practice guidelines for role clarity/inter-professional practice.	Develop competency statements and standards to guide education development.	Engage undergraduate and graduate nursing students and practicing nurses to identify knowledge and research gaps.
Develop guidance for ethical and equity issues.	Ensure a levelled approach to genomic competencies (students and practicing nurses).	Develop policy to ensure research and knowledge mobilization funded by government agencies, including nurses.
Develop resources/infrastructure.	Harmonize education and share resources.	
Engage nursing leadership for innovation and interdisciplinary practice.	Ensure accreditation programs (CASN) work with professional associations to support education development.	
	Focus on cultural safety, equity, and ethics.	

Developing Recommendations Phase 3

In consultation with our advisory committee and while considering the mandate of CASN and CANO/ACIO, we used the findings from Phases 1, 2a and 2b to develop the following recommendations and suggested strategies to accelerate genomics-informed oncology nursing education and practice.

Recommendations for CANO/ACIO

CANO/ACIO has an important role in clarifying oncology nurses' contributions to genomics-informed care and supporting nurses to develop genomic literacy. As a national organization with a mission to advance oncology nursing excellence through practice, education, research, and leadership based on the evidence from this policy research, we recommend that CANO/ACIO:

Recommendations	Suggested Strategies
1) Identify the role of CANO/ACIO in supporting the development of genomics-informed policies and the scope of this work.	• As a first step, develop a position statement clarifying the role of nurses in genomics-informed oncology care and the nursing policy priorities of CANO/ACIO in accelerating genomics into oncology nursing. • As CANO/ACIO embarks on a fulsome revision of Standards and Competencies for Oncology Nursing Practice in Systemic Therapy, consider how existing genomics-informed nursing policy documents from jurisdictions such as the US and UK can be adopted or modified for this document. Similarly, as CANO/ACIO revises other existing nursing policies such as Standards of Care, Practice Framework, and Practice Standards and Competencies for the Specialized Oncology Nurse, examine how existing documents could inform this work. • Determine the need for stand-alone standards, competencies, and/or scope of practice documents focused on genomics and oncology nursing or whether they can be integrated into existing nursing policy documents.
2) Develop a governance structure to enable the development of genomic-specific initiatives.	• Create a special interest group (SIG) focused on genomics and oncology nursing experts to support and sustain the development of genomics-informed oncology policy, advocacy initiatives, and education resources, including a position statement and toolkit that the President and Board of Directors would support.

3) Implement immediate strategies to fill the knowledge gap for oncology nurses in the practice setting.	• With the support of the Canadian Nursing and Genomics Initiative and prospective members of a CANO/ACIO SIG for genomics and oncology, develop targeted education for practicing oncology nurses to support genomic literacy and share these with CASN for use in nursing student education. • Identify and integrate existing education/training resources developed by nursing organizations (e.g., ONS, ISONG, G2NA) and genomics-specific organizations across jurisdictions. • Promote education resources by targeting clinical educators in practice settings. • Utilize existing CANO/ACIO resources (e.g. education booklet, webinars) to facilitate dissemination.
4) Identify areas requiring policy advocacy to ensure that nurses are part of developing new genomics-informed oncology initiatives at the national, organizational, and practice levels alongside interdisciplinary team members.	• Explore advocacy areas championed by US and UK organizations and consider how this could be relevant to the Canadian landscape. Example priorities might include advocating for expanded access to genomics services for Canadians, establishing the role of nurses in the delivery of genomic health care, advocating for interprofessional models of care, increasing funding for nurse-led research focused on oncology and genomics, and identifying support required to prepare the oncology nursing workforce. • Collaborate with the CNG to better understand the genomics policy landscape in Canada, the policy priorities of organizations such as Genome Canada (and provincial entities), and other key organizations. • Identify opportunities for oncology nurses to be involved in provincial and national committees where genomics policy is being developed.

5) Contribute to knowledge development and research.	• Under CANO/ACIO's research grant program, add genomics-informed oncology nursing and/or inter-professional genomics-informed practice as a suggested topic. • Include a research funding call that includes outcomes research, such as the impact of nurse-led genomics-focused interventions on patient or clinical outcomes as a suggested topic.

Recommendations for CASN

CASN has an important role in promoting nurses' contributions to patient health outcomes through genomics-informed care and advocating for the inclusion of genomics in preparatory and graduate education to ensure nurses can be full participants in interdisciplinary genomics-informed care. CASN also has a role in supporting faculty in developing genomic literacy, identifying foundational genomics knowledge, and determining how to include this in the curriculum. As the national voice for nursing education, research, and scholarship that represents baccalaureate and graduate nursing programs in Canada, we recommend that CASN:

Recommendations	Suggested Strategies
1) Develop a national genomics-informed nursing competency framework to guide education across undergraduate and graduate nursing education programs.	• Convene a meeting with educational institutions and specialty groups and develop a joint position statement to identify an agreed-upon educational approach to integrate genomics into education for undergraduate and graduate students and practicing nurses and the types of content that should be taught. • Explore whether existing competency frameworks from other jurisdictions can be adopted or adapted to the Canadian context. Examples include the Essentials of Genetic and Genomic Nursing: Competencies, Curricula, Guidelines, and Outcome Indicators, 2nd Edition (U.S.), Essential Genetic and Genomic Competencies for Nurses with Graduate Degrees (U.S.), and the Nursing Competency Framework in Genomics (U.K.) • Explore the development of specific benchmarks and indicators to help educational institutions integrate genomics into baccalaureate education in alignment with the inclusion of genomics in the National Nursing Education Framework.

2) Assess the extent to which genomics content has been integrated into nursing education programs across Canada to identify gaps, promising practices, and a baseline to monitor progress.	• Create an inventory to capture programs that currently include genomics content in their curricula to inform an approach to education. As part of the inventory, identify academic faculty champions to accelerate the integration of genomics into nursing curriculum. • Convene a meeting at CASN's annual conference in 2024 to raise awareness, conduct a benchmark assessment, and promote the exchange of education resources. • Publish articles related to genomics in the *Quality Advancement in Nursing Education* journal
3) Use existing infrastructure to increase genomic literacy amongst faculty and educators.	• Use CASN's existing professional development infrastructure to create education and faculty development resources to fill the current gap among nursing faculty and educators. Use existing evidence from the GGNPS Canadian survey and research on faculty preparation and challenges as benchmark evaluation data. • Draw on existing open-access educational resources from organizations such as ISONG and G2NA. • Explore opportunities to embed genomics content into the CASN-affiliated Canadian Nurse Educator Institute (CNEI) certification programs. If certification is not feasible, develop a short education course for educators. • Identify opportunities for partnership with nursing and non-nursing organizations focused on genomics to develop collaborative inter-professional genomics-informed education.

4) Invest in genomics-informed nursing education research projects to spread and scale evidence-informed education approaches.	• Explore the integration of genomics into CASN's National Nursing Research Priorities for Nursing Framework. • Seek support from organizations to dedicate targeted research funds that support genomics-informed education projects as part of CASN's grant program and seek other avenues to fund education development. • Consider research focused on evaluating genomic educational interventions to build the evidence base of promising practice across Canada. • Include reference to genomics in CASN documents whenever appropriate (e.g., National Nursing Education Framework).

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