



Fostering Pan-Canadian Collaboration to Advance Nursing Workforce Development: A Case Study From the Genomics Experience

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Abstract

A skilled nursing workforce can ensure that Canadians have safe and equitable access to genomics-informed healthcare. Evidence-informed frameworks designed to support the implementation of genomics across nursing indicate that leadership and collaboration are critical to success. However, siloed provincial and territorial healthcare systems create challenges for harmonizing efforts.

In this article, we discuss a solution to bring together nurse leaders across jurisdictions and domains of practice to co-create pan-Canadian strategic directions for genomics integration. We highlight the importance of national collaboration and the value it brings to nursing workforce development in rapidly changing social and technological contexts.

Introduction

Governments, researchers, healthcare providers and the public recognize the value of genomics in disease prevention, diagnosis and treatment (WHO 2022). Yet, integrating genomics into health practitioners' education and practice remains a challenge (Calzone et al. 2018; WHO 2022). Vital infrastructure is lacking in Canada to accelerate genomics-informed care in nursing, including a lack of policy guidance (Puddester et al. 2023). With over 400,000 regulated nurses working in every sector of the health system (CIHI n.d.), addressing this infrastructure gap can enable nurses to contribute to genomic service delivery (Chiu et al. 2024a; Hébert et al. 2022; Limoges et al. 2022; Puddester et al. 2023) and support nurses in addressing the unique equity issues in genomics to reduce health disparities (Limoges et al. 2024).

To prepare the nursing workforce with genomic literacy, strong collaboration among nurse leaders is needed to address a wide range of competing priorities and jurisdictional discrepancies (Calzone et al. 2018; Dewell et al. 2020; Limoges et al. 2022; Swadas et al. 2022; Tonkin et al. 2020a). However, very few structures and mechanisms exist in Canada to unify nurse leaders across provinces/territories and domains of practice to work together to solve rapidly changing professional practice issues. This case study describes our approach to facilitating collaboration and engagement with Canadian nurse leaders across educational institutions, regulatory bodies, professional associations and specialty practice groups to create the infrastructure needed to accelerate and harmonize efforts for integrating genomics into nursing. We draw on the expertise and insightful contributions of individuals who participated in two virtual dialogues focused on co-creating pan-Canadian strategic directions for genomics-informed nursing education, policy, research and practice. Lessons learned from these efforts can inform the creation of structures and mechanisms needed at a national level to enable the Canadian nursing workforce to respond consistently and in a timely manner to evolving healthcare innovations.

Intervention and Methodology: Deliberative Dialogues and Pan-Canadian Collaboration

Our focus on fostering pan-Canadian collaboration was guided by the Canadian Nursing and Genomics (CNG) initiative's engagement framework, which

identified collaboration between nurses across practice domains as crucial to enhancing their contributions to genomics (Limoges et al. 2022). We facilitated two sequential virtual deliberative dialogues to help inform policy development, knowledge translation and exchange (Boyko et al. 2014; Leslie et al. 2022). Deliberative dialogues typically include a constructive meeting environment, a suitable mix of participants and an appropriate use of research evidence. The objectives of our dialogues included: (1) disseminating findings from our previous research to increase awareness about the relevance of genomics to nursing; (2) fostering pan-Canadian collaborative partnerships to identify roles and responsibilities; and (3) developing strategic priorities to guide genomics integration into nursing through a harmonized approach.

We drew on several evidence-informed implementation and action frameworks to guide our activities. For example, the Consolidated Framework for Implementation Research (Damschroder et al. 2022) identifies the importance of assessing the characteristics (e.g., needs, capabilities, opportunities, motivation) of individuals (e.g., high- and mid-level leaders, opinion leaders, innovation deliverers) who have decision-making power or influence over implementation outcomes (Damschroder et al. 2022). The Assessment of Strategic Integration of Genomics Across Nursing (ASIGN) Maturity Matrix – a tool used internationally for accelerating genomics across nursing – identifies six critical success factors for genomics integration, including establishing clearly defined roles, fostering collaborative relationships, developing a shared vision, cultivating a culture of positive attitudes toward nursing and genomics at all levels and increasing motivation within the profession (Tonkin et al. 2020b). The constructs within these frameworks informed our decision making about the type of participants to invite and the activities to undertake. As a result, we purposefully brought together a diverse group of nurses representing various domains of practice, jurisdictional perspectives and leadership experiences to participate in knowledge exchange, network building and the co-creation of strategic directions to guide the profession in a unified way. Given our focus on creating support for the profession on a systems level, the first step was to engage leaders from educational institutions, regulatory bodies, professional associations and specialty groups who strongly influence nursing policy, professional practice and education infrastructure.

Implementation

Before the first dialogue, we sent genomics nursing policies (e.g., standards of practice, competencies, scope of practice statements) developed in the US and the UK and relevant journal articles to the participants. The purpose of sharing these resources in advance was to provide context and an opportunity for participants to develop common baseline knowledge. To structure our dialogues, we drew on the stages identified in the Global Genomics Nursing Alliance's (G2NA) Roadmap –

a tool developed to guide nurse leaders in promoting and monitoring the integration of genomics across nursing locally and nationally (Tonkin et al. 2020a). The first dialogue focused on the initial stages of the G2NA Roadmap, including exploring factors influencing change, assessing needs, raising awareness and building capacity (Tonkin et al. 2020a). During this session, participants ($n = 39$) learned about the state of genomics and nursing in Canada and other jurisdictions through presentations made by our national and international partners. We then grouped participants into three breakout rooms based on their primary area of practice and affiliations (i.e., regulators, educators and professional associations/specialty practice groups). We explored their perspectives on roles and responsibilities, facilitators and barriers to engagement and collaboration and the support they require to improve genomic literacy and implementation efforts. After the dialogue, we synthesized the results of these discussions within the context of existing genomics implementation research and the critical success factors outlined in the ASIGN Maturity Matrix (Tonkin et al. 2020b) to develop draft strategic directions and priorities.

This second dialogue focused on the latter stages of the G2NA Roadmap (Tonkin et al. 2020a), which include fostering active engagement and commitment. Integrating the lived experience of patients is a valuable strategy to help nurses see the relevance of genomics (Chiu et al. 2024b; Tonkin et al. 2020b). As such, we opened the dialogue with a presentation by an individual with personal experience receiving a positive screen for a hereditary predisposition to breast cancer (*BRCA1*). Afterward, we presented the draft strategic directions and priorities at our second dialogue for feedback and to receive additional insights from our participants ($n = 38$). We created breakout rooms with a mix of participants representing different jurisdictions and domains of practice to enable participants to experience the type of pan-Canadian collaboration we are promoting. Through facilitated discussions, we sought participants' feedback on the draft strategic directions and priorities and assessed their willingness to act on the ideas.

Discussion: Strategic Directions for Genomics-Informed Nursing in Canada

To address genomics integration at a policy and systems level, our strategic directions and priorities are centred on four of the six critical success factors from the ASIGN Maturity Matrix (Tonkin et al. 2020b). These include enhanced education and workforce development, infrastructure and resources that support incorporating genomics into practice, interprofessional collaboration and communication and healthcare transformation through leadership and policy development.

Raising Awareness, Cultivating Positive Attitudes and Fostering Commitment

The first strategic direction is focused on raising awareness of the relevance of genomics to nursing, cultivating positive attitudes about its integration and

fostering a commitment to increasing genomic literacy. Nurses need foundational knowledge to see the relevance of genomics to patient care and to be willing to engage with existing and future genomics-informed initiatives (Dewell et al. 2020; Limoges et al. 2022). A common theme identified by our participants was how the lack of knowledge about genomics was creating a barrier to engagement. Participants' top priority for immediate action included supporting leaders in academia, regulatory bodies and professional associations to develop their genomic literacy and encourage their members, registrants, students or colleagues to do the same. In addition, participants identified that developing a national position statement highlighting the essential role of nurses in delivering genomics-informed care is a critical first step.

Sustaining Collaborative Relationships

The second strategic direction focuses on initiating and sustaining collaborative relationships and networks to support the development and implementation of genomics infrastructure, including education, nursing policy, professional practice resources and sustained leadership and mentorship. This can be enabled when leaders of various nursing organizations identify champions to facilitate sustained collaboration and engagement with subject matter experts, partners and resources. Connecting across practice domains, within nursing organizations and with the CNG, can enhance collaboration and knowledge exchange with interdisciplinary partners. Professional associations and specialty practice groups serve as critical platforms to advance policy, research and practice in their respective jurisdictions and practice areas. As a result, a long-term priority is for provincial and national professional nursing associations and specialty practice groups to determine how they can integrate genomics into their policy, professional practice and education initiatives.

Increasing Advocacy Efforts and Investments

The third strategic direction involves advocacy efforts to obtain financial investment for developing a genomics-informed nursing workforce across all practice domains. Sustainable infrastructure is critical, and strengthening new and existing networks of professional associations, specialty practice groups and educators can create the conditions required to develop and sustain a strong policy advocacy strategy.

Integrating Genomics Into Nursing Education

Finally, the fourth strategic direction involves integrating genomics into all nursing education and practice levels. While recognizing the many challenges in nursing education, such as time constraints and overloaded curricula, it is still important that faculty integrate genomics to prepare nurses to provide safe and effective care. Furthermore, support for clinical education is critical for nurses already

practising across practice settings. To integrate genomics into education, priorities include enhancing nurse educators' genomic literacy, incorporating genomics into entry-level competencies and developing learning outcomes and resources to guide education and professional development across Canada.

Recommendations: Building Capacity and Increasing Genomic Literacy Among Nurses

Each participant in our two virtual dialogues plays a critical leadership role and can influence the development of regulatory policy, professional practice resources, policy infrastructure and education in Canada. To operationalize our four strategic directions, a fundamental step is to increase the genomic literacy of these leaders so that they have the knowledge and confidence to engage with the identified priorities. To promote genomic literacy, we have created a toolkit of resources to support Canadian nurses across domains of practice to develop their genomic literacy (Canadian Nursing and Genomics n.d.).

The toolkit is divided into two parts. The first part provides resources targeted toward all leaders interested in gaining foundational knowledge of genomics and the work being done within Canada and across the globe. The second part offers resources to standardize and expedite the integration of genomics into nursing curricula. The resources in the toolkit provide evidence-based content, learning objectives and outcomes, methods of scaffolding genomics into existing curriculum and curated learning resources and activities. The second half of the toolkit organizes resources by foundational and specialty nursing areas with a list of readings and resources for educators to incorporate into their teaching. The toolkit will be updated regularly by our team because we recognize that genomics is a rapidly developing science. We encourage Canadian nurse leaders from educational institutions, clinical practice settings, professional associations and regulatory bodies to use and share this resource to ensure that nurses across the country are positioned to provide safe, innovative and equitable care that Canadians expect.

Conclusion

This case study illustrates an approach to creating structures and mechanisms that support pan-Canadian collaboration among nurse leaders to advance professional nursing practice in an ever-evolving healthcare landscape. As we continue to experience the explosion of social and technological innovations, nurses must be prepared to integrate new knowledge and practices so that patients and communities benefit equitably and safely. Canada faces unique challenges due to its siloed provincial and territorial healthcare systems. However, the willingness of leaders from various domains to engage in our dialogues suggests that there is a strong appetite for continued collaboration and harmonization as one unified nursing profession in Canada. This pan-Canadian collaboration must be sustained not

only for the integration of genomics but also to ensure that infrastructure and mechanisms are readily available to support all future healthcare advancements.

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A circular arrangement of colorful matchsticks (yellow, green, blue, red, purple, orange, black) forming a ring. A central grey banner contains the text "Avoid burnout" and "Healthcare Jobs: Better Careers | Better Candidates". At the bottom, the website "jobs.Longwoods.com" is displayed.

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