Enriched (refreshed) Core Competencies for Health Services and Policy Research

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Enriched Core Competencies for Health Services and Policy Research 2.0

> **The vision**: A highly skilled health services and policy research workforce with the knowledge, skills, and capabilities to actively engage with and display leadership to advance high-performing, equity-centred learning health systems that are relentlessly committed to data, evidence, and continuous improvement.

Background

In 2015, the Canadian Health Services and Policy Research Alliance (CHSPRA) launched the pan-Canadian Training Modernization Strategy for Health Services and Policy Research (HSPR). This included a new core competency framework for HSPR PhD training that aimed to improve trainees' preparedness to lead, contribute, and make meaningful impacts within and outside of academia. The competency framework was unique in its explicit recognition of both research and leadership skills in the health services and policy researcher's toolkit. The framework recognized that to address the complex challenges confronting health systems in Canada and globally, research skills must be coupled with skills in leadership and other professional domains that have traditionally been underemphasized in doctoral curriculum. The competency framework has been adopted with success by several embedded research fellowship programs, including the CIHR Health System Impact Program and its National Cohort Training Program and the Ontario Health Teams Impact Fellowship, and a few Canadian universities have taken strides to incorporate the competencies within their HSPR doctoral training programs.

However, the competency framework is not yet widely available within doctoral programs across the country, nor has it been adopted by health system organizations. To help ensure all HSPR doctoral trainees in Canada have the opportunity to develop their professional competencies alongside their research skills, and to ensure they are future-fit and prepared to address future challenges and opportunities, a CHSPRA Training Modernization Task Force (Appendix 1 for membership) was reconstituted in 2023 to refresh the competency framework and advance its pan-Canadian implementation. A refresh of the competencies was deemed important to account for several changes and events in health policy, public health, and delivery systems that affect the research questions addressed and skills required by researchers. The growing emphasis on learning health systems, the rapid pace of technological and digital transformation, and the range of ecological, geopolitical, technological, and economic shocks that health systems face, for example, requires a skillset encompassing research and leadership and an ability to work in collaborative, intersectoral, community-engaged partnerships within complex systems. The global COVID-19 pandemic and the inequities it exacerbated highlighted the importance of having researchers and leaders with advanced science training, strong communication and collaboration skills, and a fundamental commitment to equity. The pandemic also revealed the need for leaders committed to equity, diversity, inclusion, and accessibility (EDIA), cultural safety and humility, and anti-oppression. This context presents an important opportunity for university training programs and health research funding organizations to collaborate towards the building of a highly skilled HSPR workforce. This workforce will be equipped with the competencies to confront the complex challenges of today and tomorrow, implement innovative solutions with evidence, and contribute to a culture and system that is relentlessly committed to continuous learning and improvement.

The resulting refreshed enriched core competency framework for HSPR includes nine core competencies and two transversal domains (Figure 1). These are the skills deemed essential to a health services and policy researcher's ability to conduct rigorous research that addresses system challenges and improves health for all, display leadership to advance evidence-informed implementation and improvement changes in complex systems and settings, and maximize their contribution in learning health systems and the pursuit of the Quintuple Aim.

The framework allows for flexibility in its implementation and use to guide competency development. Although implementers and users of the framework should aim for a baseline level of knowledge and skill in the entirety of the framework, a HSPR workforce comprising generalists and specialists who work together in teams to develop innovative solutions, solve complex challenges, and advance the Quintuple Aim is necessary. Accordingly, the desired level of mastery within a given competency or transversal domain may vary across institutions, individuals, and over time. Competency development is a lifelong learning journey requiring intention, mindfulness, and self-reflection throughout.

The competency engagement process, the resulting competencies and domains, their definitions, and their learning objectives are outlined below.

Approach

The competency framework refresh process involved several phases, multiple sources of evidence, and community engagement throughout. An 11-member Training Modernization Task Force (TMTF) led the work. The group was co-chaired by four senior academic leaders (Deans, Directors) of health services and policy research graduate departments and centres from different regions across Canada. The group membership included individuals from the academic, health system, and health research funding sectors who were diverse in their geographies, career stage, and demographics (Appendix 1).

Phase 1: Environmental Scan
The first phase of work involved an environmental scan to identify relevant competency frameworks, whether and how equity, diversity, and inclusion (EDI) and Indigenous cultural safety were incorporated into competency frameworks, and where and how the original enriched core competency framework for HSPR had been adopted. The peer and grey literature were searched to identify competency frameworks and a web scan of university HSPR departmental websites was conducted. Findings from the scan informed the design of a series of community engagement activities.

Phase 2: Engagement
Multiple engagement activities were conducted to invite broad input from the HSPR community and focused input from trainees, academics, and system leaders, including:

- A survey shared with the HSPR community to invite broad input on the original competency framework, including what remained relevant, what was missing, and what needed revision (n=257 responses).
- A workshop session held with Health System Impact Fellows at the March 2023 National Cohort Retreat (n=approximately 50 fellows and alumni) to capture their experience using the original framework and their ideas regarding areas to update, remove, or revise.

- Regional focus groups (n=4) with health system leaders (n=35) to understand the impact organizations seek to make, the skills and competencies employers desire when hiring researchers and, when looking to the future, the competencies they believe will be most important to an individual's ability to lead in the organization and contribute to evidence-informed improvement.
- Focus groups (n=2) with university deans and directors (n=12) of HSPR doctoral training programs across Canada to understand how faculties think about impact, the extent to which faculties provide training in the enriched core competencies (and how that training is provided), whether anything was perceived to be missing from the framework, and what steps they felt would be needed to advance adoption and implementation of the refreshed framework.

Phase 3: Framework Refresh

The TMTF met virtually over the period of January 2022 to March 2024 to iteratively review the evidence and revise the framework. The TMTF discussed competency domains, definitions, and learning objectives. Underlying the group's deliberations and assessment was an explicit commitment to the importance of rigorous scholarly training and evidence-informed health system improvement. There was unanimous agreement that the competencies should enhance, not detract, from academic excellence and that they should prepare PhD graduates to contribute their skills and talents in a range of sectors and roles including the traditional, embedded researcher, learning health system scientist, and system leader roles targeted by other competency frameworks.

Phase 4: Validating the Framework

An invitational HSPR workshop was hosted in May 2024 to validate the refreshed framework and discuss models for its implementation. Forty leaders of HSPR training programs, executives from health system organizations, research funders, and trainees were convened to review the framework, prioritize initial competencies for action, and discuss strategies to advance its pan-Canadian implementation. The resulting framework was shared at the May 2024 Canadian Association for Health Services and Policy Research (CAHSPR) conference. The community was invited to review the framework, which was posted online, and share comments and input to help with finalization. Comments received at the invitational workshop and in the subsequent community validation phase were incorporated into the final draft version of the framework, which was then shared with the TMTF for final approval.

The Competencies

Figure 1. The Competency Domains

Competency Definitions and Learning Objectives

Transversal Domains

Equity, Diversity, Inclusion, Accessibility & Anti-Oppression

Competency definition: To know how to assess health equity and apply research methods to advance equity and anti-oppression in health systems and health outcomes, and to incorporate intersectionality and equity, diversity, inclusion and accessibility (EDIA) principles in research, knowledge mobilization, and practice.

Learning objectives:
- Demonstrate knowledge of the history of racism in Canada, the communities most impacted by racism and discrimination, and the relationship between racism and health outcomes.
- Demonstrate knowledge of the structural and social determinants of health, their relationships with health outcomes, and how to apply research methods to address the determinants and reduce inequities.
- Demonstrate an understanding of bias (personal, organizational, system) and how to address it.
- Demonstrate an understanding of one's own power, position, and privilege and how to use it to be a good ally.
- Demonstrate ability to engage and interact inclusively, and with cultural safety and humility, with diverse individuals, groups, and communities.

- Demonstrate ability to contribute to building cultures of diversity, inclusivity, and accessibility with more equitable practices, programs, and policies.
- Demonstrate an understanding of and ability to integrate intersectionality and EDIA principles in research, knowledge mobilization, and practice.

Indigenous Cultural Safety and Humility

Competency definition: To know how to have meaningful and culturally safe engagement and research practices with Indigenous Peoples, with respectful relationships and humility, and contribute to addressing anti-Indigenous racism.

Learning objectives:
- Demonstrate knowledge of Indigenous histories, colonization, treaties, reconciliation and key commitments, and anti-Indigenous racism in Canada and the ongoing systemic impacts on Indigenous Peoples today.
- Demonstrate an understanding the ethical conduct of research with Indigenous Peoples and communities, including the First Nations Principles of OCAP (ownership, control, access, and possession) and Tri-Council Policy Statement for the Ethical Conduct for Research Involving Humans (TCPS 2) Chapter 9 (Research Involving the First Nations, Inuit, and Métis Peoples of Canada), and be able to integrate the principles in research and knowledge mobilization.
- Demonstrate knowledge of how to uphold the rights of Indigenous Peoples, develop respectful relationships and engagement, and ensure cultural safety and humility in Indigenous Health Research.
- Demonstrate ability to integrate Indigenous reconciliation principles, cultural safety and humility, and anti-racism into research, policy, and practice.

Enriched Core Competency Domains and Definitions

Leadership and Mentorship

Competency definition: To be able to lead self and others; build, support and provide leadership within collaborative teams working together to advance shared goals; provide mentorship and sponsorship to support others' growth; and foster cultures of EDIA, continuous learning, and improvement.

Learning objectives:
- Demonstrate knowledge of emotional intelligence (EI) and ability to draw on EI skills to engage and support people and teams.
- Demonstrate ability to develop a vision and inspire collaboration to advance shared goals.
- Demonstrate systems thinking and a strategic, future and solution-oriented, purpose-driven mindset.
- Demonstrate ability to anticipate and respond to future challenges and opportunities.
- Demonstrate the ability to develop, lead, support, and engage with high-performing, inclusive teams to work together to address complex challenges and achieve success.
- Demonstrate knowledge of mentorship and sponsorship, understanding their roles in professional growth, and effectively provide of mentorship and sponsorship to support others' development.
- Demonstrate the ability to respect, value, and advance cultures of diversity, inclusivity, psychological safety, transparency, and continuous learning and improvement.
- Demonstrate the ability to be resilient, adaptive, accountable, and self-reflective.
- Demonstrate humility, empathy, compassion, trust, curiosity, respect, and an open mind when providing leadership for people and teams.

Innovation, Implementation, and Improvement

Competency definition: To create and implement new and better ways [for the team/organization/system] to improve health and system outcomes, foster the systematic uptake of research findings in the health system by using implementation science and/or quality improvement methods, inform continuous learning and improvement, and advance learning health system capabilities.

Learning objectives:
- Demonstrate ability to plan, manage, implement, and evaluate change.
- Demonstrate ability to articulate a compelling vision and case for change, mobilize buy-in and support (advocate), and lead people and organizations through the change process.
- Demonstrate systems thinking and organizational awareness in the design and conduct of implementation and improvement projects.
- Demonstrate the ability to use appropriate and effective quality improvement and implementation science methods to improve health and system outcomes.
- Demonstrate knowledge of when an intervention is ready to spread, scale, and/or sustain for greater adoption and impact.
- Demonstrate ability to develop and manage productive relationships and networks to advance change.
- Demonstrate knowledge of learning health systems and ability to help build and advance learning health system capabilities.
- Demonstrate a commitment and mindset towards innovation (social, technological, etc.), to de-stigmatize failure, and an ability to develop and/or deploy innovations.
- Demonstrate knowledge of what activities constitute research versus quality improvement activities and seek appropriate oversight for each.

Engagement, Collaboration, and Partnership

Competency definition: To be able to design and participate in appropriately tailored, effective, culturally safe, diverse, and inclusive engagements (e.g., patient engagement, community engagement, partner engagement), build and work effectively and respectfully within interdisciplinary and intersectoral collaborations to co-design solutions within complex systems, network to develop diverse and productive relationships, build partnerships to advance shared goals.

Learning objectives:
- Demonstrate the ability to engage diverse stakeholders meaningfully, respectfully, and safely.
- Demonstrate the ability to design and participate in appropriately tailored, effective, culturally safe, diverse, and inclusive engagements (e.g., patient engagement, community engagement, partner engagement).
- Demonstrate knowledge of engagement and collaboration frameworks and approaches (e.g., co-design) and ability to apply them in academic and non-academic environments for safe and respectful community and partner engagement.
- Demonstrate knowledge of patient-oriented research (POR) principles and practices.
- Demonstrate ability to network, develop, and sustain meaningful, diverse, respectful, and strategic relationships and partnerships across disciplinary and sectoral boundaries.
- Demonstrate humility, empathy, compassion, trust, curiosity, and an open mind in engagements, collaborations, and partnerships.
- Demonstrate ability to communicate effectively, actively listen, facilitate inclusive discussion, manage conflict, and build consensus.

Project Management

Competency definition: To be able to plan, coordinate and manage all stages of project (and program with a portfolio of projects), from idea conception to knowledge dissemination, and to anticipate and manage risks.

 Learning objectives:
- Demonstrate knowledge of the principles of project management and ability to apply the principles to manage a project and/or portfolio of projects (program).
- Demonstrate knowledge of how to develop and manage a program/project budget.
- Demonstrate ability to manage program/project teams and people and motivate progress towards goals.
- Demonstrate ability to identify project performance metrics and assess performance.
- Demonstrate ability to prioritize key activities, manage time, anticipate and manage risks, and problem solve.

Communication

Competency definition: To be able to communicate technically complex information and evidence clearly, appropriately, and with impact to varying audiences.

Learning objectives:
- Demonstrate the ability to communicate technically complex information in accessible, informative, compelling content for diverse audiences (e.g., policy and decision makers, providers, researchers, the public).
- Demonstrate the ability to distill complex information into concise and impactful key points, tailored to the needs of the given audience.
- Demonstrate the ability to communicate with clarity and conciseness the problem, the evidence, and the resulting key messages and implications with influence and impact (e.g., advocacy for evidence-informed change) to key audiences.
- Demonstrate knowledge of communications tools (e.g., evidence briefs, government briefing notes, media, social media) and ability to use the appropriate tool for the given audience and communications goal.
- Demonstrate ability to engage with the media, social media, and digital tools to engage with the public and key audiences.
- Demonstrate the ability to use dialogue and negotiation, including clearly articulating a value-proposition and actively listening to understand others' ideas and perspectives, to work towards an agreeable solution.

Knowledge Mobilization

Competency definition: To be able to employ the science and practice of knowledge mobilization (including integrated knowledge translation) to support the design and co-production of relevant research, the integration of research evidence with other forms of evidence and ways of knowing, and the use of research findings in policy and practice to inform health system improvement.

Learning objectives:
- Demonstrate knowledge of the science and practice of knowledge mobilization (including integrated knowledge translation), including methods, theories, frameworks, and approaches, and how to tailor knowledge mobilization for different issues, contexts, partners, and audiences.

- Demonstrate ability to identify knowledge user[1] priorities and evidence needs and develop relevant and responsive research questions.
- Demonstrate knowledge of approaches to inclusive co-design and co-production of research and ability to practice them, including the ability to integrate research with other forms of evidence and information and to build and sustain relationships and collaborations with knowledge users throughout the research process.
- Demonstrate ability to develop evidence syntheses, conduct rapid response research, and create evidence briefs that addresses knowledge user priorities and support informed decision making.
- Demonstrate ability to broker evidence (including translating data to evidence, evidence to knowledge, knowledge to insight, integration of research evidence with other forms of evidence and ways of knowing) and contextualize evidence for applicability in the local context.
- Demonstrate systems thinking and organizational awareness in the design, conduct, and evaluation of knowledge mobilization.
- Demonstrate ability to identify pathways to research impact and evaluate success.

Health Systems, Policy Processes, and Systems Science

Competency definition: Knowledge of Canadian and international health systems and institutions, how health care systems operate and interconnect with other sectors, how policies and decisions are made, how to use systems science for research and implementation, and how to contextualize research evidence for the local contexts (i.e., socio-political, economic, environmental).

Learning objectives:
- Demonstrate knowledge the governance, financing, funding, organization, structure, delivery, and performance of health care systems in Canada and internationally.
- Demonstrate knowledge of the structural, social, and ecological determinants of health and the role of health care systems in addressing the determinants.
- Demonstrate understanding of the political context, policy process, and decision-making structures in Canada's health systems, and systems internationally, and be able to identify and harness windows of opportunity for research impact.
- Demonstrate knowledge of systems science and its utility for understanding the behaviour of complex health systems and their interconnectedness with other systems and sectors (e.g., climate, education, social services, employment).

Research and Evaluation

Competency definition: The ability to ask meaningful and relevant research questions, have knowledge of a broad range of theories and methods and ability to identify and use them appropriately, analyze health system interventions (e.g., policies, programs, service delivery models) and their implementation in complex settings, develop evidence-informed interventions and solutions, and reflect critically on the evidence to identify policy/practice/implementation considerations and options for improvement.

Learning objectives:
- Demonstrate the ability to develop relevant and meaningful research questions that address priorities and outcomes of interest to health system partners (health system, patients/families, provider).

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[1] The term knowledge user is used to reflect a wide array of people who may help to co-create the knowledge and be able to use the knowledge generated through research to make informed decisions about health policies, programs and/or practices. This could include but not be limited to a practitioner, policy maker, decision maker, health care administrator, community leader, system partner/organization, person with lived/living experience, or other. CIHR's definition is available here.

- Demonstrate the ability to engage with relevant knowledge users in the identification and prioritization of research questions that address current and future stakeholder needs.
- Demonstrate knowledge of a broad range of key health services and policy research theories and methods (e.g., qualitative, quantitative, mixed-methods, evidence synthesis, implementation science) and be able to select and use them appropriately given the research question and setting (e.g., research lab, learning health system).
- Demonstrate ability to select and use an appropriate study design, evaluation methods, analytic techniques, data collection, and measurement approaches to address outcomes of interest to key health system partners.
- Demonstrate knowledge of impact planning and assessment and ability to incorporate impact planning and assessment into evaluations and development of solutions.
- Demonstrate systems thinking and organizational awareness in the design and conduct of evaluations and development of evidence-informed solutions.
- Demonstrate the ability to reflect critically on a wide range of evidence, identify its applicability to the local context, and formulate solutions to health problems/system challenges.
- Demonstrate knowledge of research ethics and the requirements of the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans – TCPS 2 (2022) and be able to apply ethical principles and minimize real and/or potential conflicts of interest in all aspects of research.

Data Science

Competency definition: The ability to analyze, interpret, and generate insight from a wide range of data and information systems (including data derived from electronic and administrative health records, lived experience) to address health care challenges and improve outcomes.

Learning objectives:
- Demonstrate knowledge about data sources and information systems that can be used and linked for health care research and quality improvement.
- Demonstrate knowledge of big data, artificial intelligence, health informatics, and emerging data science trends.
- Demonstrate the ability to collect, analyze, use, interpret, and generate insight from a wide range of data (including administrative data, data derived from electronic health records and other clinical information sources, qualitative data) for research and quality improvement.
- Demonstrate the ability to assess data quality and apply data quality assurance processes.
- Demonstrate ability to engage with data scientists to conduct relevant research and with system partners and knowledge users to interpret and translate data into insight to advance improvements.

Conclusion

The refreshed enriched core competencies for HSPR can be used to guide the development of competency assessment methods and curricula for doctoral training programs and health system organizations across the country that share in the vision, power, and promise of "A highly skilled health services and policy research workforce with the knowledge, skills, and capabilities to actively engage with and display leadership to advance high-performing, equity-centred learning health systems that are relentlessly committed to data, evidence, and continuous improvement."

Appendix 1. Training Modernization Task Force Members

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