



# Education for Registered Nurses in Primary Care: Current and Future Trends

**Julia Lukewich, PhD, RN**  
Associate Professor  
Faculty of Nursing  
Memorial University  
St. John's, NL

**Sophia Myles, PhD**  
Adjunct Professor  
School of Kinesiology and Health Sciences  
Laurentian University  
Sudbury, ON  
Research Coordinator  
Faculty of Nursing  
Memorial University  
St. John's, NL

**Dana Ryan, MA**  
Research Associate  
Faculty of Nursing  
Memorial University  
St. John's, NL

**Suzanne Braithwaite, PhD, RN**  
Assistant Professor  
School of Nursing  
Trent University  
Peterborough, ON

**Marie-Eve Poitras, RN, PhD**  
Associate Professor  
Family Medicine and Emergency  
Medicine Department  
Université de Sherbrooke  
Sherbrooke, QC

**Deanne Curnew, PhD(c), RN**  
Nurse Educator  
Centre for Nursing Studies  
St. John's, NL

**Maria Mathews, PhD**  
Professor  
Department of Family Medicine  
Schulich School of Medicine and Dentistry  
Western University  
London, ON

## Abstract

Registered nurses (RNs) require specific preparation to fulfill the unique roles of working in primary care in Canada; however, RN education lacks primary care-specific content. This paper reviews RN education related to primary care in Canada by outlining opportunities and challenges. Gaps in primary care-specific education within undergraduate programs and at the post-licensure level highlight the need for integrating primary care, including interprofessional collaboration, into curricula throughout the education and training pipeline. Establishing partnerships across education, practice and policy spheres is critical to adapting RN education to meet the needs of Canada's primary care workforce.

## Introduction

Education intentionally designed for the primary care context is fundamental to ensuring that the registered nurse (RN) workforce can meet the unique roles and responsibilities of working in primary care settings across Canada. RNs in primary care (also known as primary care nurses and family practice nurses; Barrett et al. 2021) have post-secondary education and work both autonomously and in collaboration with other providers to coordinate care and deliver direct healthcare services to patients, families and communities (CNA 2015). In primary care, RNs provide a broad range of health services across the lifespan, including triage; prenatal, well-baby and well-women care; routine immunizations; mental health and substance use support; treatment of acute illness; sexual healthcare; chronic disease prevention and management; health education and self-management support; coordination and implementation of targeted primary care programs; and patient navigation (CFPNA n.d.; CNA 2011; Norful et al. 2017; Oandasan et al. 2010). In Canada, RNs are adopting an increasingly collaborative role alongside family physicians and other healthcare providers in primary care. Research demonstrates that team-based care models involving nurses improve access to and continuity of care (Ansell et al. 2017; Laurant et al. 2005; Lukewich et al. 2018; Norful et al. 2017) and lead to better patient outcomes (Griffiths et al. 2010; Lukewich et al. 2022; Martin et al. 2010).

Worldwide, most nursing education programs at the baccalaureate level have not prioritized the integration of primary care-specific content into their curriculum and remain heavily focused on preparing students to work in acute care (Calma et al. 2019; Curnew et al. 2023; Wojnar and Whelan 2017). There are also notable gaps in post-licensure continuing education opportunities for the primary care nursing workforce (Lukewich et al. 2024). The lack of standardized educational requirements and opportunities for RNs in primary care has contributed to their slowed integration and optimal utilization within primary care teams.

Across Canada and internationally, nursing literature and primary care system partners (e.g., policy makers, managers, healthcare providers) acknowledge that RNs are playing an increasing role in primary care and that there is a need to establish standardized training and education for this career path (Bauer and Bodenheimer 2017; CNA 2015; Lukewich et al. 2024; Stewart et al. 2024). Indeed, primary care nursing is progressively considered to be a unique discipline requiring its own skills and training requirements (Poitras et al. 2018). A World Health Organization report acknowledging the contribution of nurses to the global health workforce outlined a need to develop standardized education and training to prepare nurses for their roles in primary care among other healthcare settings (WHO 2021). Moreover, the International Council of Nurses highlight the necessity for comprehensive interprofessional education and training focused on

primary care to ensure that the nursing workforce can meet and adapt to evolving healthcare needs and challenges, such as concurrent public health and primary care crises (ICN 2021; Stewart et al., 2024).

Therefore, the purpose of this paper is to provide an overview of the current status of the educational preparation and educational opportunities for RNs in primary care. We summarize the education requirements for RNs to practise in primary care, present opportunities for primary care education at the undergraduate and post-licensure levels and discuss challenges confronting the preparation of RNs for primary care. We conclude with recommendations for nursing educators, health leaders and researchers to support and promote the future of education for RNs in primary care across Canada. We will draw upon recent literature published in this area, as well as the expertise and knowledge of nursing educators, researchers and leaders who work closely in the area of improving primary care through the integration and optimization of RNs in team-based care across the country.

### **Education for RNs in Primary Care in Canada**

To practise in primary care in Canada, RNs do not currently require any specialized education or training beyond that which is required for general entry-to-RN practice (Barrett et al. 2021). Licensure is required for RNs to practise in Canada and is the responsibility of provincial/territorial regulators. The Canadian Council of Registered Nurse Regulators (CCRNRR) comprises 12 provincial/territorial bodies (Northwest Territories and Nunavut share the same regulatory body) that collaborate toward consistent regulatory standards, practices and competencies. Each provincial/territorial regulator has unique criteria for licensure; however, minimally, these include graduating from an approved nursing education program, passing a licensing exam and applying to the regulator for licensure (Miller 2020). The National Council Licensure Examination – Registered Nurse (NCLEX-RN) (National Council of State Boards of Nursing n.d.) is the licensing examination in all Canadian jurisdictions, except for the province of Quebec, where nurses are required to pass the *Ordre des infirmières et infirmiers du Québec* (OIIQ) professional examination (OIIQ n.d.). Since 2000, RN preparation in Canada generally consists of a baccalaureate degree in nursing from a program that has been approved by the provincial/territorial regulator. Quebec is currently the only jurisdiction that offers a diploma option for entry-to-RN practice (i.e., *collège d'enseignement général et professionnel* [CEGEP]) (Baker 2019; CNA 2015). Although a diploma option exists, it is important to note that Quebec RNs require a baccalaureate degree to practise in primary care. The Canadian Association of Schools of Nursing (CASN) is responsible for setting accreditation standards and granting accreditation to baccalaureate nursing programs in Canada (CASN n.d.). In 2022, there were 12,439 graduates from all Canadian entry-to-practice nursing programs (CASN 2023).

## **Guiding Frameworks for Educating RNs in Primary Care**

Canada does not have nationwide standards or a curriculum framework defining education or preparation requirements for the RN workforce in primary care.

### *CASN's National Nursing Education Framework*

CASN's National Nursing Education Framework (2022) outlines learning outcomes specified for each degree level, including baccalaureate entry-to-practice. It is intended to be used as a guide for developing and revising curricula and to demonstrate the broad scope of nursing education. The framework does not currently include learning outcomes specific to primary care, limiting its ability to serve as a guide for advancing primary care education (CASN 2022). Recently, the CASN Nurse Educator Interest Group developed a community health-focused guide to accompany the CASN National Nursing Education Framework. This companion guide contains explicit directions for primary care education, such as integrating knowledge of family practice and outpost nursing settings into undergraduate nursing curricula, and examining the activities of the CFPNA (CASN Community Health Nursing Interest Group 2024).

### *Canadian competencies for RNs in primary care*

In 2019, the Canadian competencies for RNs in primary care were published by the CFPNA, a professional association dedicated to supporting and advancing the role of nurses working in primary care settings across Canada (CFPNA 2019; Lukewich et al. 2020). This framework consists of 47 unique competency statements organized across six domains, namely, professionalism; clinical practice; communication; collaboration and partnership; quality assurance, evaluation and research; and leadership. These competencies are unique to primary care practice and define the essential knowledge and skills required for RNs to effectively practise in this sector. The competencies provide some direction to guide primary care nursing education and practice across the country.

## **Undergraduate Education**

Across Canada, undergraduate nursing programs and curricula vary, but all programs must prepare graduates to meet provincial/territorial entry-level competencies (ELCs), which are based on CCRNR Entry-Level Competencies for the Practice of Registered Nurses (CCRN 2019). The framework organizes 101 competencies into nine RN roles: clinician, professional, communicator, collaborator, coordinator, leader, advocate, educator and scholar. ELCs are broad and represent the expected competencies of a beginning generalist RN (CCRN 2019). Provincial/territorial regulators set minimum standards for how ELCs must be taught, applied and evaluated, leading to curricular variation across the country regarding teaching-learning requirements.

The roles identified within the CCRNR (2019) competency framework and many of the ELCs overlap with the Canadian competencies for RNs in primary care, but primary care is not explicitly distinguished within the framework. To assess the extent to which Canadian undergraduate baccalaureate nursing programs have integrated the Canadian competencies for RNs in primary care into their curricula, a national cross-sectional survey of undergraduate baccalaureate nursing programs ( $n = 74$ ) was conducted (Lukewich et al. 2023). Program coordinators and professors/instructors from CASN-accredited nursing programs were asked to rate their level of agreement regarding the integration of each competency into their program. Findings revealed that the competencies are inconsistently integrated into nursing curricula across the country, and there is a need to further investigate the nature of primary care learning opportunities (e.g., in theory courses, simulated experiences and clinical placements) and understand the barriers/facilitators to integrating primary care within Canadian nursing programs to strengthen education for this growing workforce. Although these influencing factors have not yet been examined in Canada, internationally, several barriers to the development of the primary care nursing workforce have been identified, including a lack of continuous professional development opportunities (Endalamaw et al. 2024; Halcomb et al. 2018; Stephen et al. 2018). The international literature has identified a lack of faculty expertise (Morton et al. 2019; Wojnar and Whelan 2017) and available qualified preceptors (Mennenga et al. 2021; Morton et al. 2019; Sykes and Urquhart 2021) in primary care as barriers to integrating primary care education. A recent scoping review found that the qualifications/expertise of nursing faculty to deliver primary care education is unclear (Curnew et al. 2023). Furthermore, successful undergraduate primary care nursing education often involves providing professional development support to enhance the capacity of primary care nurses to act as clinical preceptors. In particular, government/health authority-funded initiatives that involved collaborative leadership from academic and practice sectors played a key role in adequately resourcing primary care education and facilitating formal training for RNs in primary care to offer quality clinical experiences for students (Curnew et al. 2023).

The majority of clinical practice experience within Canadian undergraduate nursing programs occurs within acute care settings, such as medical-surgical units (Smith et al. 2013), with limited primary care content or exposure to primary care environments. Educators across Canada have begun to advocate for a shift away from the prioritization of acute care education to include primary care components such as clinical placements in primary care settings, in light of changing population health needs and the expansion of team-based primary care (CASN 2024; CFPC et al. 2022; Curnew et al. 2022; Sanders et al. 2024). Furthermore, several schools of nursing in other countries (e.g., US, UK) have

integrated specialized primary care education pathways into undergraduate nursing programs in response to healthcare system strategies to address population needs and/or strengthen the primary care workforce. Although the same drivers exist across Canada, there is limited Canadian evidence available, and no such Canadian pathway programs were evaluated within the identified literature (Curnew et al. 2023).

### **Post-Licensure Education**

RNs acquire, maintain and continually enhance their knowledge and skills in their chosen areas of practice in several ways, including but not limited to post-licensure continuing education programs, specialty certification (e.g., the CNA Certification Program) and mentorship programs (CNA 2015). Presently, there are few widely available post-licensure education programs within Canada to support practice and continuing competence development for RNs in primary care (Barrett et al. 2021; Lukewich et al. 2024). Certifications in specialty areas of nursing are offered through the Canadian Nurses Association (CNA) (a national body that represents and promotes the role of nurses within all regulatory designations) but are not mandatory for licensure or employment. The Community Health Nursing Certification includes elements of primary care in its blueprint (CNA 2021); however, primary care is currently not recognized as a specialty practice by the CNA. Therefore, there is no specific certification offered for primary care nursing (CNA 2020).

A recently published environmental scan (Lukewich et al. 2024) identified post-licensure education programs available to RNs in primary care across Canada and explored their alignment with the Canadian competencies for RNs in primary care (CFPNA 2019; Lukewich et al. 2020) and the College of Family Physicians of Canada Patient's Medical Home (PMH) model (CFPC 2019). Ten unique programs were identified that offered high-level primary care content tailored to specific practice areas or environments, with varying levels of alignment with the Canadian competencies and PMH model pillars; however, no programs were specifically informed by the Canadian competencies for RNs in primary care (CFPNA 2019). These findings underscore the need for a post-licensure education program that aligns with established primary care frameworks to inform clinical practice, define the scope of practice and potential roles, and highlight nurses' contributions to primary care.

### ***Team primary care nurse***

To address the lack of primary care-specific knowledge in Canadian nursing education, a bilingual Canadian team of researchers, RNs, patient partners, nursing educators, mentorship experts, policy makers, nurse students and primary care administrators created the Team Primary Care Nurse (TPCN) initiative.

The team conducted a multiphase project to develop and implement a national post-licensure educational program for RNs in primary care based on the Canadian competencies (CFPNA 2019; Lukewich et al. 2020; Poitras et al. 2024) and CFPC's PMH model (CFPC 2019). Using the Knowledge-to-Action framework (Graham et al. 2006), the team used a co-creation approach to identify overarching themes and develop the andragogical content for each module within the educational program. This process led to the development of a bilingual asynchronous education program for RNs in primary care across Canada, delivered through a digital learning environment (launched in March 2024) (CFPNA 2023; Poitras et al. 2024). The program acknowledges the importance of preparing RNs for practice in primary care and comprises six modules centred around the current state of primary care nursing in Canada, the PMH model, the nursing scope of practice and roles in primary care, the Canadian competencies, patient engagement and critical thinking contextualized within a case study. The team has also built a community of practice comprising a network of facilitators and subject matter experts as a support structure to accompany the educational program. To assess the implementation process and educational intervention's effects on RNs in primary care, the team co-designed a developmental evaluation, supported by the RE-AIM [reach, effectiveness, adoption, implementation, and maintenance] (Glasgow and Estabrooks 2018), Eco-Normalization (Hamza and Regehr 2021) and the New World Kirkpatrick Models (Kirkpatrick and Kirkpatrick 2015). The protocol of this initiative is submitted and under review (Poitras et al. 2024). Evaluation is ongoing and will be published in future reports.

Given the collaborative team environment in primary care, a Canadian inter-professional initiative called *Team Primary Care – Training for Transformation* was implemented in 2022 (Team Primary Care 2023) to enhance the capacity of primary care professionals. It established a network of primary care providers (e.g., family physicians, RNs, dietitians, pharmacists, midwives) from across the country who made strides toward better preparing primary care providers to work together in collaborative primary care teams.

### **International Comparisons**

Outside of Canada, several countries have established initiatives driven from governmental levels to enhance primary care nursing education within entry-to-practice programs (Curnew et al. 2023). For example, the Brazilian National Programme for the Reorientation of Professional Health Education (*Pró-Saúde*) is a cooperative effort between the health and education sectors to promote curricular changes that emphasize community-based primary care (de Andrade et al. 2014; Morais et al. 2010). This program aims to better prepare nurses at the undergraduate level to respond to population health needs, through didactic and clinical experiences in primary care settings. Furthermore, Health Education England

(a division of the UK's National Health Service) has developed a General Practice Nursing Workforce Development Plan that aims to increase the number and quality of nursing student clinical placements within primary care settings, guided by a developed framework of education and regulatory practices (HEE 2017). Note, in the UK, RNs in primary care are commonly referred to as general practice nurses (Barrett et al. 2021). This initiative is driven by a recognized need to expand and develop the primary care nursing workforce and involves oversight by Health Education England into the clinical environments where students engage in clinical experiences.

The Australian Government Department of Health and Aged Care instituted an initiative around strengthening the role of the nursing workforce in collaboration with the Australian Primary Health Care Nurses Association and the Australian Government Department of Education, Skills and Employment. This initiative includes a Transition to Practice Program and Chronic Disease Management and Ageing Workshops to support the transition of new and experienced nurses into primary healthcare, and to provide chronic disease management and healthy aging education and training for nurses working in primary healthcare, respectively (Department of Health and Aged Care 2023). Similarly, other post-licensure educational initiatives exist for RNs internationally, with the goal of enhancing skills and competencies to facilitate RN practice in primary care. For example, the General Practice Nurse Program in the UK offers a comprehensive pathway for RNs to transition into primary care roles within general practice, with some universities offering specialized postgraduate certificate programs (GPNEN 2024). The Primary Health Care Specialty Nursing Program in New Zealand focuses on training RNs to work effectively in primary care settings, with a focus on the provision of well-child care, through the delivery of a postgraduate certificate (Whitireia and WelTec 2024).

## **Discussion**

### **Implications and Recommendations for Nursing Leaders**

Nursing education needs to keep pace with the growing primary care workforce within primary care teams, including the expansion of team-based primary care. Building the capacity of the RN workforce is imperative as the demand for comprehensive, team-based primary care rises, driven by factors such as an aging population, rising rates of chronic illness, a growing emphasis on preventative health measures and a shortage of primary care providers (CIHI 2022; Flood et al. 2023; Stewart et al. 2024). New roles and practice settings for RNs are continually being introduced to address Canadians' health needs and improve health service delivery. Many challenges related to the integration and optimization of RNs in primary care stem from limited attention and access to education and preparation explicitly focused on this growing workforce.

At an undergraduate level, primary care should be intentionally integrated into CASN's National Nursing Education Framework and considered within entry-to-practice competencies. Purposeful engagement among nursing programs (including program leaders, faculty, students, clinical partners and government ministries) will facilitate opportunities to strengthen primary care exposure within nursing programs, including clinical experiences, and build capacity for undergraduate nursing students to work in primary care (Belita et al. 2020; Bell et al. 2023). Canadian educators acknowledge the importance of undergraduate nursing education in driving primary care advancement; however, fulsome realization of the vision will require commitment and innovation with respect to pedagogical approaches (Duncan and Pepin 2025).

In addition to the importance of expanded undergraduate nursing education, it is also necessary to further develop training at the post-licensure level. In Canada, post-licensure educational opportunities such as certification and continuing education programs specific to primary care are lacking (Lukewich et al. 2024). Furthermore, leaders of primary care organizations should support nurses in pursuing additional credentialing or certification by allocating dedicated time for professional development, raising awareness of available opportunities or offering funding. Moreover, mentorship programs and formal leadership training initiatives have been shown to enhance nurses' readiness for primary care practice by increasing their autonomy, self-confidence, problem-solving abilities and professional communication skills while also improving collaboration within healthcare teams (Gularte-Rinaldo et al. 2023). Mentorship programs at the transition-to-practice level have been shown to play a role in helping newly placed RNs adapt, gain competence and increase the skill sets required to practise in primary care and experience an easier transition to the workplace after graduation (Aggar et al. 2017; Lavoie-Tremblay et al. 2020). Likewise, programs aimed at enhancing leadership competencies, such as decision making and interprofessional collaboration, are essential for preparing nurses to lead within primary care (Heinen et al. 2019). Future efforts should prioritize mentorship and leadership training at both practice and policy levels and build upon conceptual knowledge gained during undergraduate education (Curnew et al. 2023). Promoting lifelong learning through strategic investments in diverse educational pathways is essential for strengthening and optimizing the contributions of the RN workforce within primary care.

The nature of high-quality primary care is collaborative, where "two or more professions learn with, from and about each other to improve collaboration and the quality of care" (CAIPE 2002). Therefore, all providers who work in primary care (e.g., medicine, nursing, social work, pharmacy) should receive education and training in interprofessional collaboration (Stewart et al. 2024). The training

should include elements focused on understanding scopes of practice and roles/activities so that all team members can gain clarity into their roles/activities and how they may complement and/or overlap with others in primary care teams. This may contribute to improved healthcare professional satisfaction, expand the range of services provided in a primary care clinic and positively impact the provision of recommended testing, screening and preventative care (Wranik et al. 2019).

## Conclusion

Opportunities for RNs in primary care are expanding as Canadian healthcare systems continue to integrate collaborative primary care teams, underpinning the need for primary care nursing workforce preparation to keep pace with healthcare system evolution. Preparing RNs to practise in primary care involves a commitment to their development across the career lifespan, including pre- and post-licensure stages. Partnership across education, practice and policy spheres, from local to national levels is needed to promote and sustain the preparation of RNs in primary care.

*Correspondence may be directed to Julia Lukewich by e-mail at [jlukewich@mun.ca](mailto:jlukewich@mun.ca).*

## References

- Aggar, C., J. Bloomfield, T.H. Thomas and C.J. Gordon. 2017. Australia's First Transition to Professional Practice in Primary Care Program for Graduate Registered Nurses: A Pilot Study. *BMC Nursing* 16(1). doi:10.1186/s12912-017-0207-5.
- Ansell, D., J.A.G. Crispo, B. Simard and L.M. Bjerre. 2017. Interventions to Reduce Wait Times for Primary Care Appointments: A Systematic Review. *BMC Health Services Research* 17(295). doi:10.1186/s12913-017-2219-y.
- Baker, C. 2019. Promoting Quality in Nursing Education in Canada Through a Canadian Examination for Baccalaureate Nurses. *Nursing Leadership* 32(4): 81–91. doi:10.12927/cjnl.2020.26098.
- Barrett, C., M. Mathews, M.-E. Poitras, A.A. Norful, R. Martin-Misener, J. Tranmer et al. 2021. Job Titles and Education Requirements of Registered Nurses in Primary Care: An International Document Analysis. *International Journal of Nursing Studies Advances* 3: 100044. doi:10.1016/j.ijnsa.2021.100044.
- Bauer, L. and T. Bodenheimer. 2017. Expanded Roles of Registered Nurses in Primary Care Delivery of the Future. *Nursing Outlook* 65(5): 624–32. doi:10.1016/j.outlook.2017.03.011.
- Belita, E., N. Carter and D. Bryant-Lukosius. 2020. Stakeholder Engagement in Nursing Curriculum Development and Renewal Initiatives: A Review of the Literature. *Quality Advancement in Nursing Education – Avancées en formation infirmière* 6(1): 2. doi:10.17483/2368-6669.1200.
- Bell, T., J. Blazek, K. Elsea and T. Morris. 2023. Increasing Exposure to Primary Care Nursing Through Curriculum Revision and an Innovative Nursing Minor. *Nurse Educator* 48(1): 49–53. doi:10.1097/NNE.0000000000001267.
- Calma, K.R.B., E. Halcomb and M. Stephens. 2019. The Impact of Curriculum on Nursing Students' Attitudes, Perceptions and Preparedness to Work in Primary Health Care: An Integrative Review. *Nurse Education in Practice* 39: 1–10. doi:10.1016/j.nepr.2019.07.006.

- Canadian Association of Schools of Nursing (CASN). n.d. Accredited Canadian Nursing Education Programs. Retrieved June 25, 2024. <<https://www.casn.ca/accreditation/accredited-canadian-nursing-education-programs/>>.
- Canadian Association of Schools of Nursing (CASN). 2022, November. *National Nursing Education Framework*. Retrieved June 25, 2024. <[https://www.casn.ca/wp-content/uploads/2022/12/National-Nursing-Education-Framework\\_2023\\_EN\\_FINAL.pdf](https://www.casn.ca/wp-content/uploads/2022/12/National-Nursing-Education-Framework_2023_EN_FINAL.pdf)>.
- Canadian Association of Schools of Nursing (CASN). 2023, November. *Registered Nurses Education in Canada Statistics 2021–2022*. Retrieved June 25, 2024. <<https://www.casn.ca/wp-content/uploads/2023/11/2021-2022-RNECS-Report-EN-Final.pdf>>.
- CASN Community Health Nursing Interest Group. 2024. Community Health Nursing Guidelines: Companion Guide to CASN National Nursing Education Framework. Canadian Association of Schools of Nursing. Retrieved February 24, 2025. <<https://www.casn.ca/competency-guidelines/national-nursing-education-framework/>>.
- Canadian Council of Registered Nurse Regulators (CCRNRR). 2019. *Entry-Level Competencies (ELCs) for the Practice of Registered Nurses, 2018*. Retrieved June 25, 2024. <<https://www.ccrnr.ca/assets/ccrnrr-rn-entry-level-competencies---2019.pdf>>.
- Canadian Family Practice Nurses Association (CFPNA). n.d. CFPNA – About. Retrieved June 25, 2024. <<https://www.cfpna.ca/>>.
- Canadian Family Practice Nurses Association (CFPNA). 2019. National Competencies for Registered Nurses in Primary Care. Retrieved June 25, 2024. <<https://www.cfpna.ca/national-core-competencies>>.
- Canadian Family Practice Nurses Association (CFPNA). 2023. Introduction of the TPCN Project. Retrieved June 25, 2024. <<https://www.cfpna.ca/copy-of-tpcn-project>>.
- Canadian Institute for Health Information (CIHI). 2022. Health Workforce in Canada: In Focus (Including Nurses and Physicians). Retrieved September 12, 2024. <<https://www.cihi.ca/en/health-workforce-in-canada-in-focus-including-nurses-and-physicians>>.
- Canadian Nurses Association (CNA). 2011. Primary Care Toolkit. Retrieved June 25, 2024. <<https://www.cna-aaic.ca/en/nursing/nursing-tools-and-resources/primary-care-toolkit>>.
- Canadian Nurses Association (CNA). 2015. *Framework for the Practice of Registered Nurses in Canada*. Retrieved June 25, 2024. <[https://hl-prod-ca-oc-download.s3-ca-central-1.amazonaws.com/CNA/2f975e7e-4a40-45ca-863c-5ebf0a138d5e/UploadedImages/Framework\\_for\\_the\\_Practice\\_of\\_Registered\\_Nurses\\_in\\_Canada\\_\\_1\\_.pdf](https://hl-prod-ca-oc-download.s3-ca-central-1.amazonaws.com/CNA/2f975e7e-4a40-45ca-863c-5ebf0a138d5e/UploadedImages/Framework_for_the_Practice_of_Registered_Nurses_in_Canada__1_.pdf)>.
- Canadian Nurses Association (CNA). 2020. CNA Certification Program. Retrieved June 25, 2024. <<https://cna-aaic.ca/en/certification>>.
- Canadian Nurses Association (CNA). 2021, July. *Community Health Nursing Certification: Exam Blueprint and Specialty Competencies*. Retrieved June 25, 2024. <[https://hl-prod-ca-oc-download.s3-ca-central-1.amazonaws.com/CNA/2f975e7e-4a40-45ca-863c-5ebf0a138d5e/UploadedImages/documents/CH\\_Blueprint\\_2020\\_Revised\\_July\\_2021\\_Copy.pdf](https://hl-prod-ca-oc-download.s3-ca-central-1.amazonaws.com/CNA/2f975e7e-4a40-45ca-863c-5ebf0a138d5e/UploadedImages/documents/CH_Blueprint_2020_Revised_July_2021_Copy.pdf)>.
- Centre for Advancement of Interprofessional Education (CAIPE). 2002. CAIPE's Definition of Interprofessional Education. In "CAIPE Strategy 2022-2027." Retrieved June 25, 2024. <<http://www.caipe.org.uk/>>.
- Curnew, D., A. Deeb, S. Isaacs, R. Puddester and C. Vaughan. 2022. Hindsight Is 2020: A Graduate Student Perspective. *Nursing Leadership* 35(3): 32–47. doi:10.12927/cjnl.2022.27004.
- Curnew, D., J. Lukewich, M. Mathews, M.-E. Poitras and K. Romme. 2023. Integration of Primary Care Education Into Undergraduate Nursing Programs: A Scoping Review Protocol. *JBI Evidence Synthesis* 21(7): 1493–1500. doi:10.11124/JBIES-22-00312.
- de Andrade, S.R., A.E. Boeha, D. de Mattia, C.G.E. Bohes and M.F. dos Santos Daussy. 2014. Cooperation and the Relationship Between Education and Healthcare Institutions: The Nursing *Pró-Saúde* Project. *Texto e Contexto Enfermagem* 23: 160–66. doi:10.1590/S0104-0702014000100019.

- Department of Health and Aged Care. 2023. Strengthening the Role of the Nursing Workforce. Retrieved June 25, 2024. <<https://www.health.gov.au/our-work/strengthening-the-role-of-the-nursing-workforce>>.
- Duncan, S.M. and J.I. Pepin. 2025. Opportunities for Nursing Education Advancement in Primary Health Care | Des ouvertures pour la formation en sciences infirmières en soins de santé primaires. *QANE - AFI* (11)1: Article 1. doi:10.17483/2368-6669.1556.
- Endalamaw, A., R.B. Khatri, D. Erku, A. Zewdie, E. Wolka, F. Nigatu et al. 2024. Barriers and Strategies for Primary Health Care Workforce Development: Synthesis of Evidence. *BMC Primary Care* 25(1): 99. doi:10.1186/s12875-024-02336-1.
- Flood, C.M., B. Thomas and E. McGibbon. 2023. Canada's Primary Care Crisis: Federal Government Response. *Healthcare Management Forum* 36(5): 327–32. doi:10.1177/08404704231183863.
- General Practice Nurse Education Network (GPNEN). 2024. General Practice Nurse Programmes Available in the United Kingdom. Retrieved June 25, 2024. <<https://gpnen.org.uk/early-career/general-practice-nurse-programmes-available-in-the-united-kingdom/>>.
- Glasgow, R.E. and P.E. Estabrooks. 2018. Pragmatic Applications of RE-AIM for Health Care Initiatives in Community and Clinical Settings. *Preventing Chronic Disease* 15: e02. doi:10.5888/pcd15.170271.
- Graham, I.D., J. Logan, M.B. Harrison, S.E. Straus, J. Tetroe, W. Caswell et al. 2006. Lost in Knowledge Translation: Time for a Map? *The Journal of Continuing Education in the Health Professions* 26(1): 13–24. doi:10.1002/chp.47.
- Griffiths, P., T. Murrells, J. Maben, S. Jones and M. Ashworth. 2010. Nurse Staffing and Quality of Care in UK General Practice: Cross-Sectional Study Using Routinely Collected Data. *British Journal of General Practice* 60(570): e36–48. doi:10.3399/bjgp10x482086.
- Gularte-Rinaldo, J., R. Baumgardner, T. Tilton and V. Brailoff. 2023. Mentorship ReSPeCT Study: A Nurse Mentorship Program's Impact on Transition to Practice and Decision to Remain in Nursing for Newly Graduated Nurses. *Nurse Leader* 21(2): 262–67. doi:10.1016/j.mnl.2022.07.003.
- Halcomb, E., E. Smyth and S. McInnes. 2018. Job Satisfaction and Career Intentions of Registered Nurses in Primary Health Care: An Integrative Review. *BMC Family Practice* 19(1): 136. doi:10.1186/s12875-018-0819-1.
- Hamza, D.M. and G. Regehr. 2021. Eco-Normalization: Evaluating the Longevity of an Innovation in Context. *Academic Medicine* 96(11s): S48–53. doi:10.1097/ACM.0000000000004318.
- Health Education England (HEE). 2017. *The General Practice Nursing Workforce Development Plan*. Retrieved June 28, 2024. <<https://www.hee.nhs.uk/sites/default/files/documents/The%20general%20practice%20nursing%20workforce%20development%20plan.pdf>>.
- Heinen, M., C. van Oostveen, J. Peters, H. Vermeulen and A. Huis. 2019. An Integrative Review of Leadership Competencies and Attributes in Advanced Nursing Practice. *Journal of Advanced Nursing* 75(11): 2378–92. doi:10.1111/jan.14092.
- International Council of Nurses (ICN). 2021. *Policy Brief. Nursing Education and the Emerging Nursing Workforce in COVID-19 Pandemic*. Retrieved June 25, 2024. <[https://www.icn.ch/sites/default/files/2023-06/ICN%20Policy%20Brief\\_Nursing%20Education.pdf](https://www.icn.ch/sites/default/files/2023-06/ICN%20Policy%20Brief_Nursing%20Education.pdf)>.
- Kirkpatrick, J. and W.K. Kirkpatrick. 2015. *An Introduction to the New World Kirkpatrick Model*. Retrieved June 25, 2024. <[https://www.cpedv.org/sites/main/files/file-attachments/introduction\\_to\\_the\\_kirkpatrick\\_new\\_world\\_model\\_eval\\_002.pdf](https://www.cpedv.org/sites/main/files/file-attachments/introduction_to_the_kirkpatrick_new_world_model_eval_002.pdf)>.
- Laurant, M., D. Reeves, R. Hermens, J. Baspennig, R. Grol and B. Sibbald. 2005. Substitution of Doctors by Nurses in Primary Care. *Cochrane Database of Systematic Reviews* 18(2): CD001271. doi:10.1002/14651858.cd001271.pub2.
- Lavoie-Tremblay, M., L. Sanzone, T. Aubé, C. Bigras, G. Cyr and G. Primeau. 2020. A University/Healthcare Institution Mentorship Programme: Improving Transition to Practice for Students. *Journal of Nursing Management* 28(3): 586–94. doi:10.1111/jonm.12960.

- Lukewich, J., D.S. Edge, E. VanDenKerkhof, T. Williamson and J. Tranmer. 2018. Team Composition and Chronic Disease Management Within Primary Healthcare Practices in Eastern Ontario: An Application of the Measuring Organizational Attributes of Primary Health Care Survey. *Primary Health Care Research and Development* 19(6): 622–28. doi:10.1017/s1463423618000257.
- Lukewich, J., M. Allard, L. Ashley, K. Aurbrey-Bassler, D. Bryant-Lukosius, T. Klassen et al. 2020. National Competencies for Registered Nurses in Primary Care: A Delphi Study. *Western Journal of Nursing Research* 42(12): 1078–87. doi:10.1177/0193945920935590.
- Lukewich, J., R. Martin-Misener, A.A. Norful, M.-E. Poitras, D. Bryant-Lukosius, S. Asghari et al. 2022. Effectiveness of Registered Nurses on Patient Outcomes in Primary Care: A Systematic Review. *BMC Health Services Research* 22(1): 740. doi:10.1186/s12913-022-07866-x.
- Lukewich, J., M. Mathews, M.-E. Poitras, J. Tranmer, R. Martin-Misener, D. Bryant-Lukosius et al. 2023. Primary Care Nursing Competencies in Canadian Undergraduate Nursing Programs: A National Survey. *Nursing Education in Practice* 71: 103738. doi:10.1016/j.nepr.2023.103738.
- Lukewich, J., M.-E. Poitras, C. Vaughan, D. Ryan, M. Guérin, D. Bulman et al. 2024. Canadian Post-Licensure Education for Primary Care Nurses Addressing the Patient’s Medical Home Model and Canadian Competencies for RNs in Primary Care: An Environmental Scan. *Quality Advancement in Nursing Education* 10(2): 8. doi:10.17483/2368-6669.1429.
- Martin, J.S., W. Ummenhofer, T. Manser and R. Spirig. 2010. Interprofessional Collaboration Among Nurses and Physicians: Making a Difference in Patient Outcome. *Swiss Medical Weekly* 140(1718): 1–12. doi:10.4414/smw.2010.12648.
- Mennenga, H.A., R.J. Brown, T.L. Horsley, A.A. Abuatiq and C. Plemmons. 2021. Collaborating With Rural Practice Partners to Provide a Primary Care Experience for Prelicensure Nursing Students. *Nurse Educator* 46(2): E14–17. doi:10.1097/nne.0000000000000876.
- Miller, L. 2020. Understanding Regulatory, Legislative, and Credentialing Requirements in Canada. In E. Staples, R. Pilon and R.A. Hannon, eds., *Canadian Perspectives on Advanced Practice Nursing (2nd ed)*. (pp. 87–98). Canadian Scholars.
- Morais, F.R.R., I.D.R. Leite, L.L. de Oliveira and R.M. Verás. 2010. Teaching and Nursing Practices Reorientation: Pro-Health Implantation in Mossoró, Brazil. *Revista Gaucha de Enfermagem* 31(3): 442–49. doi:10.1590/s1983-14472010000300006.
- Morton, J.L., F.M. Weierbach, R. Sutter, K. Livsey, E. Goehner, J. Liesveld et al. 2019. New Education Models for Preparing Pre-Licensure Students for Community-Based Practice. *Journal of Professional Nursing* 35(6): 491–98. doi:10.1016/j.profnurs.2019.05.004.
- National Council of State Boards of Nursing. n.d. About the NCLEX: A Behind-the-Scenes Look at the Exam. Retrieved June 25, 2024. <<https://www.nclex.com/About.page>>.
- Norful, A., G. Martsof, K. de Jacq and L. Poghosyan. 2017. Utilization of Registered Nurses in Primary Care Teams: A Systematic Review. *International Journal of Nursing Studies* 74: 15–23. doi:10.1016/j.ijnurstu.2017.05.013.
- Oandasan, I.F., M. Hammond, L.G. Conn, S. Callahan, A. Gallinaro and A. Moaveni. 2010. Family Practice Registered Nurses: The Time Has Come. *Canadian Family Physician* 56: e375–82.
- Ordre des infirmières et infirmiers du Québec (OIIQ). n.d. Becoming a Nurse in Quebec: Professional Examination. Retrieved June 25, 2024. <<https://www.oiiq.org/en/acceder-profession/parcours-etudiant/examen-professionnel/convocation-et-inscription>>.
- Poitras, M.-E., M.-C. Chouinard, F. Gallagher and M. Fortin. 2018. Nursing Activities for Patients with Chronic Disease in Primary Care Settings: A Practice Analysis. *Nursing Research* 67: 35–42. doi:10.1097/NNR.0000000000000253.
- Poitras, M.-E., J. Lukewich, T. Klassen, M. Guérin, S. Braithwaite, R. Devey-Burby et al. 2024. Implementation and Evaluation of a Canadian Post-Licensure Educational Program for Registered Nurses in Primary Care: A Developmental Evaluation Protocol. *BMC Nurs*. [under review]

- Sanders, T., J. Avanthay Strus, B. Chyzyy, A. Chircop, G. Currie, F. Fillion et al. 2024. Understanding the Current State of Community Health Nursing Education in Canada: An Exploration of the Erosion and Devaluation of Community Health Theoretical and Practice Education in Canadian Nursing Programs. *QANE – AFI* 10(3): Article 2. doi:10.17483/2368-6669.1447.
- Smith, P.M., M.M. Spadoni and V.M. Proper. 2013. National Survey of Clinical Placement Settings Across Canada for Nursing and Other Healthcare Professions – Who’s Using What? *Nurse Education Today* 33(11): 1329–36. doi:10.1016/j.nedt.2013.02.011.
- Stephen, C., S. McInnes and E. Halcomb. 2018. The Feasibility and Acceptability of Nurse-Led Chronic Disease Management Interventions in Primary Care: An Integrative Review. *Journal of Advanced Nursing* 74(2): 279–88. doi:10.1111/jan.13450.
- Stewart, D., M. Schober and H. Catton. 2024. *Nursing and Primary Health Care: Towards the Realization of Universal Health Coverage. A Discussion Paper*. International Council of Nurses. Retrieved September 23, 2024. <[https://www.icn.ch/sites/default/files/2024-09/ICN\\_PHC-Report-2024\\_EN\\_FINAL.pdf](https://www.icn.ch/sites/default/files/2024-09/ICN_PHC-Report-2024_EN_FINAL.pdf)>.
- Team Primary Care. 2023. About Team Primary Care. Retrieved June 25, 2024. <<https://www.teamprimarycare.ca/about>>.
- The College of Family Physicians of Canada (CFPC). 2019, March 18. A New Vision for Canada: Family Practice – The Patient’s Medical Home. Retrieved June 25, 2024. <<https://www.cfpc.ca/en/resources/patient-s-medical-home/a-new-vision-for-canada-family-practice-the-patient>>.
- The College of Family Physicians of Canada (CFPC), Canadian Nurses Association (CNA), Canadian Medical Association (CMA). 2022, April 14. *Health Human Resource Policy Recommendations: Summary*. Retrieved September 19, 2024. <<https://policybase.cma.ca/viewer?file=%2Fmedia%2FBriefPDF%2FBR2022-11.pdf#page=1>>.
- Whitireia and WelTec. 2024. Postgraduate Certificate in Primary Health Care Specialty Nursing. Retrieved June 25, 2024. <<https://www.whitireiaweltec.ac.nz/study-programmes/postgraduate/health-and-social/postgraduate-certificate-in-primary-health-care-specialty-nursing>>.
- Wojnar, D.M. and E.M. Whelan. 2017. Preparing Nursing Students for Enhanced Roles in Primary Care: The Current State of Prelicensure and RN-to-BSN Education. *Nursing Outlook* 65(2): 222–32. doi:10.1016/j.outlook.2016.10.006.
- World Health Organization (WHO). 2021. *Global Strategic Directions for Strengthening Nursing and Midwifery 2016–2020*. Retrieved June 25, 2024. <<https://iris.who.int/bitstream/handle/10665/275453/9789241510455-eng.pdf?sequence=>>>.
- Wranik, W.D., S. Price, S.M. Haydt, J. Edwards, K. Hatfield, J. Weir et al. 2019. Implications of interprofessional primary care team characteristics for health services and patient health outcomes: A systematic review with narrative synthesis. *Health policy (Amsterdam, Netherlands)* 123(6): 550–63. doi:10.1016/j.healthpol.2019.03.015.