Theory-Informed Strategies to Guide Policy, Practice, Education and Research About Registered Nurses in Primary Care

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Abstract

Many primary care leaders remain unclear about how to embed registered nurses (RNs) into primary care practices. This paper identifies theoretical groundwork and measurement strategies to expand primary care RN roles. We facilitated deliberative dialogue, including breakout sessions, with a target audience of 68 participants from primary care research, policy and clinical organizations. Discussion was recorded and analyzed until themes emerged. Results illuminated challenges with inconsistent titles, lack of competencies and difficulties measuring RN contributions. Theoretical frameworks (e.g., Donabedian's model and the co-management model) and effective measurement strategies may best inform practice, policy and research to enhance RN roles in primary care.

Introduction

Primary care is the foundation of Canadian healthcare and the entry point to care for most individuals (Kiran 2022). Primary care is responsible for meeting the everyday health and social needs of populations across the lifespan. A high-quality

primary care system delivers services in a manner that is accessible, coordinated with other care providers and facilities and patient-centred. Yet primary care remains inaccessible for nearly five million Canadians. In 2021, nearly 20% of Toronto's family physicians alone reported considering closing their practice in the next five years (Kiran et al. 2022; Statistics Canada 2020). This shortage is most prominent in rural and low-income communities, thereby widening racial and socio-economic disparities in access to care and patient outcomes (Mangin et al. 2022).

One proposed solution to improving accessibility is expanding the use of inter-professional primary care teams, which has the potential to improve quality, comprehensiveness, coordination and effectiveness of care as well as patient and provider satisfaction (Schottenfeld et al. 2016). In Canada specifically, researchers have found improved mortality and decreased re-admissions and emergency department visits with team-based primary care as opposed to traditional physician-led clinics (Riverin et al. 2017). Some practices are increasingly applying team-based primary care, which may include family physicians, nurse practitioners, social workers, pharmacists and, increasingly, registered nurses (RNs) (Bauer and Bodenheimer 2017). On the contrary, other practice models may include the use of a sole physician and medical assistant. Yet RNs offer a multitude of primary care services, such as coordinating care, chronic disease prevention and management and health education (Norful et al. 2017). Emerging evidence from Canada, and abroad, indicates that adding RNs to primary care teams offers benefits for patients, providers and health systems, including greater patient satisfaction, reduced physician workload and improved outcomes related to disease management, routine preventative care and self-management interventions (e.g., smoking cessation support) (Lukewich et al. 2022a, 2022b). Yet, there have been challenges with expanding the role of RNs in primary care, thereby inhibiting models for achieving RN engagement, RN-led care and training opportunities. Organizations, such as the Josiah Macy Jr. Foundation in the US, have called for primary care leaders to extend the scope of discussion about how to best advocate for and allocate resources needed to expand roles of RNs across primary care settings (Bodenheimer and Mason 2017).

Despite the potential for improved outcomes, many primary care practices leaders (e.g., managers/directors) and health policy makers remain unclear about how to best embed RNs into primary care. Historically, primary care RNs' roles have been limited to patient triage, intake and scheduling and office-based functions such as preparing exam rooms (Norful et al. 2017). One US-based study of 30 high-performing primary care practices found that primary care practice exemplars expand RN roles into higher-level duties, such as care coordination and direct

patient care (Flinter et al. 2017). While these emerging practices have yielded early evidence about improved outcomes, undertaking expansion of RN roles requires substantial time and resource investments to appropriately redirect workflows and engage team members.

To aid decision makers in embedding and optimizing primary care RN workforce across Canada, we convened the Team Primary Care Nursing (TPCN) Summit in February 2024 in St. John's, Newfoundland and Labrador. The purpose of the TPCN Summit was to: (1) identify frameworks and recommendations for a primary care target audience to effectively integrate RNs into team-based care and (2) identify opportunities for practices to measure RNs' contributions to care. More specifically, we held a plenary session led by one international moderator to facilitate the exchange of theory-based practices and evidence-based approaches related to optimizing the RN role within team-based primary care. A second moderator with expertise in Canadian primary care nursing policy evoked discussion on local and national efforts and implications. This present paper describes the deliberative dialogue across this key plenary session and the subsequent breakout sessions (as described in the following sections) intended to inform best practices in Canada surrounding theory-informed integration of RNs in primary care.

Methodology

The approach to participant engagement at the TPCN Summit was consistent with deliberative democracy principles (Fearon 1998). The key activities within the session were structured as deliberative dialogues, which is a strategy for knowledge translation and research uptake that considers contextually specific considerations stemming from diverse participant input (Boyko et al. 2012). Deliberative dialogue offers the potential to enhance the knowledge and insights of participants about an issue and generate recommendations informed by evidence and driven by participants (Mulvale et al. 2014; O'Brien et al. 2020). There are several distinguishing features: participants represent multiple participant groups; research evidence is included in dialogue to provide foundational information to guide discussion; participant tacit knowledge and experience is incorporated into dialogue; and facilitation (Lavis et al. 2014). While not necessarily intended to achieve consensus, this technique in structured meetings has been employed in health services research to collect information from experts (Jones and Hunter 1995). Knowledge dissemination and implementation of findings generated from such discussions is an optimum outcome of consensus activities (Jones and Hunter 1995; Plamondon et al. 2015).

Participants were selected using purposive maximum variation sampling to secure a widely representative participant mix (Boyko et al. 2012). Participants included 68 primary care decision makers from various groups who contribute to primary

care across Canada and internationally (i.e., patient partners; health policy makers; health administrators [e.g., primary care team managers/directors]; nursing educators; researchers with expertise in nursing, health workforce, service delivery [e.g., funding models], primary care education/training and chronic disease management; primary care providers [e.g., RNs, nurse practitioners, physicians]; nursing students; and representatives from nursing organizations [e.g., Canadian Nurses Association, Canadian Family Practice Nurses Association]). The TPCN Summit assembled this primary care target audience in person, fostering collaboration and dialogue, including a plenary session followed by smaller breakout sessions and a concluding/cumulative panel. The results below were derived from one of the plenary sessions that focused on the application of theory and measurement, specifically intended to prompt deliberative dialogue of strategies that inform policy and practice change among the primary care nursing workforce. The plenary session lasted one hour and included an overview of potential theoretical models and measurement tools that may be useful in policy making. The session was facilitated by two moderators (JL and AN), where one expert in primary care delivery models presented theoretical and measurement content, and the other, with expertise in primary care nursing policy in Canada, evoked key discussion among the attendees. Next, the group was subdivided into breakout groups (each with 8–10 participants) and a session leader (i.e., previously identified group representative) to discuss the application of theoretical and measurement approaches needed to expand the role of RNs in primary care. The breakout groups used white-board sessions to apply a substruction process to determine dimensions of primary care team models, identify potential scales to measure relevant data and discuss existing challenges with embedding RNs in primary care. Dialogue and visual photography of any figures created on the white boards were documented. Next, the whole group of 68 participants re-convened and each breakout group leader presented their individual groups' dialogue and recommendations as part of a panel. Detailed documentation of the plenary lecture, breakout sessions and panel was done by a research assistant. All notes from sessions were merged into a single document and the study team coded the discussion, grouping codes into categories, and through iterative discussion, determined emergent themes (Plamondon et al. 2015). Further details about the proceedings and approaches to collect and analyze the data stemming from deliberative dialogues are published elsewhere (Lukewich et al. 2024).

Results
Theme #1: Known Challenges to Embedding RNs Into Primary Care Teams
The initial dialogue surrounded key factors that often inhibit nurses from being effectively embedded into primary care teams. First, inconsistencies in professional titles that denote roles and settings of RNs often vary across organizations and geographical jurisdictions. For example, the title "practice nurse" in one area

identifies a nurse working in primary care while terms such as "general nurse," "community nurse" or "general practice nurse" may be used. The title most used across Canada is "primary care nurse" or "family practice nurse." The promotion of standardized titles and/or an explicit reference to regulatory designation (i.e., "registered nurse in primary care") may support a better identification of a nurse's training, skillset and setting in which they practice.

Next, the group identified that many practices lack established competencies. The scarcity of standardized skillsets and roles for nurses working in primary care yields missed opportunities for nurses to practice to the full extent of their education and training. While there have been efforts to establish national-based competency evaluations/check lists, variability across organizations remains. There is a subsequent impact on the evaluation of nursing practice. If no established competencies are fitted to nursing practice policies, it is difficult to assess and monitor a nurse's effectiveness in primary care. It also creates confusion about which roles a nurse contributes to care delivery, prompting underutilization or assignment of non–clinical-based responsibilities.

Furthermore, it was noted consistently that valid and reliable metrics to understand RN contributions to primary care delivery and outcomes are lacking. While an initial approach to measurement may not include billable services, efforts at practice and leadership levels may be made to evaluate the seven pillars of quality: efficacy (ability of care to improve health), effectiveness (degree to which health improvements are attained), efficiency (providing the greatest health improvement at the lowest cost), optimality (cost–benefit balance), acceptability (patient comfort and subsequent impact on patient outcomes and cost), legitimacy (social impact of care) and equity (fair distribution of care) (Donabedian 1990). Harnessing evidence about RNs' contributions to each of these pillars may illuminate the impactful contributions of primary care nursing roles.

Another identified challenge was a lack of training opportunities within primary care, particularly referring to clinical training experiences. Securing knowledgeable and willing preceptors is difficult as many regions do not currently have nurses within primary care practices, thus inhibiting opportunities for hands-on, real-world training. While several practices do offer clinical rotations with non-nursing providers, the importance of nurses training nurses is critical to adequate preparation for a primary care role. Finally, the lack of funding mechanisms that reimburse practices for nursing-specific tasks (e.g., vaccinations, patient education) creates a myriad of inefficiency, missed revenue and limited identification of clinical contributions that nurses make. Finally, the measurement of nurse-led visits and procedures appears critical to better understand fiscal contributions of RNs in primary care.

Theme #2: Leveraging Established Theory to Implement Change in Practice, Policy and Research

Donabedian's quality of care model
The first theory presented to inform efforts for change in primary care nursing practice, policy and research was Donabedian's (1966) quality of care model. This linear model consists of three dimensions, indicating (1) structure, which informs (2) function/process, which in turn impacts (3) outcomes. Per group dialogue, structure factors are imperative to embed nurses into primary care and consist of ample resources (physical and personnel) for the nursing management of patients. This structure includes adequate office space to support the flow of patient care delivery, including private rooms and administrative space for documentation or team meetings. It also includes practice infrastructure such as team and patient communication and documentation aids (e.g., telephones, e-mail access, secure messaging, electronic medical records). In addition, interprofessional clinical staff are needed to ensure that nursing responsibilities do not shift toward non-clinical roles. Answering phones, cleaning exam rooms and administrative organizational tasks (e.g., filing paperwork) were identified as common mismanagement and underutilization of nurses in primary care. Finally, established policies that delineate nursing competencies and roles are critical to ensure that subsequent processes are completed appropriately.

The interplay of structure and processes (second dimension) influences patient, clinician and organizational outcomes. It is critical to measure and understand the processes that nurses perform to promote efficiency and effectiveness. Such processes range from workflow, team and patient interactions, clinical procedures and co-managing patients with other clinicians to direct clinical care. Communication and documentation, including in person or written exchange of information, emerged as important processes across RN roles. It was noted that nurses need full access to patient care documentation to make informed decisions about patient care delivery.

Outcomes (third dimension) encompassed a wide array of potential outcome variables that should be evaluated to support further integration of RNs in primary care. Diagnosis-specific control of patient's clinical status, quality-of-care metrics, patient volume, revenue, workforce retention and nursing-specific outcomes such as well-being, burnout, stress and job satisfaction were discussed with subsequent influence on team efficiency and effectiveness. Collectively, the above-mentioned exemplars within each of the dimensions of Donabedian's model were noted as highly important variables that should be considered by clinicians, policy makers and organizational leaders when embedding RNs into primary care.

Co-management model

The second model explored within the dialogue was Norful et al.'s (2018a) co-management model. The model posits that despite the presence of team infrastructure, clinical resources and day-to-day processes, not all clinicians, leaders and organizations work cohesively when co-managing patients. The model focuses on a more granular examination of the interpersonal interaction within clinician dyads (e.g., physician and nurses) needed to effectively co-manage patient care within the overarching clinical team. The three dimensions of the model indicate what needs to be present for effective co-management: (1) effective communication; (2) mutual respect and trust; and (3) shared philosophy of care. The identification of suboptimal factors within any of the three dimensions will help clinicians, policy makers and leaders identify targets for practice or policy change needed to improve clinician relations. The first dimension, effective communication, was identified as effective and timely dialogue between RNs and other clinical team members, including access to patient and practice documentation. It was noted that since nurses are not currently billable providers, they are not always privy to practice-level quality or fiscal outcomes. In addition, since an RN is not typically a prescribing provider, they do not necessarily know all clinical-related information received or exchanged across providers.

The second dimension incorporates not only an interpersonal mutual respect and trust but also a co-managing provider's understanding of the RN's scope of practice, skillset strengths/weaknesses and professional experience. By recognizing and leveraging RNs' strengths and subsequently trusting their decisions during patient care may prompt improved clinical outcomes, efficiency and effectiveness of clinical team processes. It is important to have RN practice policies that clearly delineate RN skillset capacity. The third dimension is a shared philosophy of care and surrounds a clinical alignment of patient, care delivery and team goals. In summary, dimensions within this conceptual model were identified as essential for RNs' interactions within primary care teams.

Discussion

This paper describes the themes surrounding a deliberative dialogue about challenges and strategies to increase efforts for embedding RNs in primary care teams. Several challenges emerged, including the lack of standardization of titles, competencies, evaluation metrics to highlight nursing contributions and training opportunities to increase primary care workforce capacity. Theoretical models may help inform a structured approach to policy making by understanding key dimensions of high-quality care and interprofessional relations. Finally, measurement tools that validly and reliably measure the contributions of RNs in primary care are needed.

To help overcome our finding about the challenges with the standardization of titles, a recent publication identified the protected titles (i.e., regulatory title), job titles and education/training requirements for RNs to work in primary care across international jurisdictions (Barrett et al. 2021; Lukewich et al. 2021). In Canada specifically, RNs are regulated at the provincial/territorial level with the protected title of "registered nurse" (Almost 2021). Globally, it is recommended that consistent nomenclature within a region or at a national level may help generate common understanding and optimal integration of RN roles within primary care teams. Knowing terminology used internationally may also help countries learn and adapt initiatives designed for comparable RN roles in primary care within their respective jurisdictions. In addition to formative training in Canada, a post-licensure education program for RNs in primary care was launched (CFPNA 2024). This program was designed to unite RN roles in primary care across the country, which is often performed in isolation within a specific clinic/office setting. The program offers opportunities to learn about Canadian competencies for RNs in primary care, the Patient's Medical Home model, scope of practice and role optimization and patient engagement in primary care, and apply the concepts to case scenarios that may be encountered in everyday practice. Importantly, the program includes a virtual network of nurse academics, clinical experts and mentors who can be leveraged to share knowledge related to RN primary care practice across clinics, regions and provinces. Despite these recent initiatives, there is still much more to be done to support preparation, integration and advancement of this role within primary care in Canada and internationally.

In this paper, two theoretical approaches were discussed to inform policy and practice change along with areas for future research for nurses in primary care. The first, Donabedian's (1966) quality of care model, has been a long-standing guide for policy makers and health services researchers to approach decisions in healthcare needed to optimize outcomes. Newer models such as the co-management model (Norful et al. 2018a) illuminate granular factors that should be considered when establishing workforce compositions. While these two models precipitated meaningful discussion and recommendations, it is important to note that other theories exist and may be applied to efforts with embedding RNs into primary care. The Nursing Role Effectiveness Model, built upon a Donabedian framework, provides insight into nursing-sensitive structure, processes and outcomes (Doran 2003, 2011; Irvine et al. 1998). However, to avoid the limitation of often variable RN distribution in existing primary care practices, future research is needed to explore and measure a wide array of factors surrounding Donabedian's dimensions needed to embrace interdisciplinary and interprofessional influence on team compositions. Comparative effectiveness research that builds evidence about patient and workforce outcomes stemming from varying team and interdisciplinary primary care models is recommended. More

specifically, existing models such as the nursing care organization framework (Dubois et al. 2012) may offer opportunities for leaders and researchers to explore team compositions, skillsets, work environments and innovative approaches to primary care delivery given available organizational allocation of resources. Overall, policy and practice change may benefit from theoretical foundations that inform the interplay of multi-faceted factors influencing the success of RNs embedded into primary care.

Another pertinent finding from our deliberative dialogue surrounded the importance of measurement of nursing data. Historically, nursing roles are folded into practice-level budgets, prompting an inability to evaluate fiscal contributions, conduct comparative effectiveness analysis or illuminate contributions of RNs to patient and organizational outcomes (Welton and Sermeus 2010). The adoption of data processes that isolate nursing roles and the application of valid and reliable measures may help optimize decision making for nursing leaders and organizations.

Implications for Nursing Leadership

There are several implications for nursing leadership within this paper to inform practice, policy and research. Despite an increased amount of literature supporting the expansion of nurses in primary care, nursing leaders may struggle with the best approach to plan, implement and evaluate the addition of RNs into primary care. First, as stated earlier, theoretical frameworks offer a structured approach to evaluating key factors needed to be established prior to successfully embedding an RN into primary care. The models may be focused on a broad infrastructure perspective or at a more granular team or process level. Second, to improve the measurement and evaluation of nursing outcomes, the adoption of academic–clinical practice partnerships can promote collaboration between clinical nursing leaders and academic researchers, who often have the existing capacity to analyze data and measure the impact of interventions. Such existing partnerships have been shown to enhance the capacity of clinical organizations to conduct nursing research and subsequently support the evaluation of policy and practice outcomes (Rivera and Shelley 2024). A third recommendation is to explore evidence about existing primary care practices that have demonstrated success with RNs in primary care teams. Researchers have generated evidence about RN workflow, roles and responsibilities in primary care (Norful et al. 2018a, 2018b). Other literature has evaluated existing primary care exemplars to understand strategies for optimizing RN roles. Such practices exhibit common workflows that include (1) patient care visits that are co-managed with providers; (2) nursing-specific roles to contribute to complex care management; (3) nurses running specialized care services, including programs that provide disease-specific support to patients; and (4) using standing protocols to enhance independent RN-led care (e.g., vaccinations) (Wagner et al. 2017). RNs in other settings (e.g., hospitals and

long-term care) have established many of these workflow processes. The adoption of such efforts in primary care may expand the acceptance and effectiveness of RNs embedded into primary care settings with the goal of improving practice efficiency and patient and workforce outcomes. More research and deliberative dialogue investigating optimal ways to achieve such changes as RN roles and patient care delivery models are needed, especially in the context of dynamic operational and cultural attributes.

There are limitations to this paper. First, deliberative dialogue is limited to perspectives and experiences shared by attendees at the TPCN Summit. While our planners made a substantial effort to purposively recruit a generalizable representation of primary care target audience from different groups (e.g., academics, researchers, clinicians, practice leaders, policy makers, etc.) and a wide geographic distribution, other potential participants who did not attend may have different perspectives. Furthermore, deliberative dialogue, methodologically, is limited by a lack of definitive data analysis methods to analyze outcomes related to content explored. In addition, we acknowledge that varying payment systems may have great potential to support an increased role of RNs. However, in this present dialogue, the variability of funding models across international jurisdictions was beyond the scope of this paper. Efforts to illuminate cost and payment systems were performed separately and will be published elsewhere (Spencer et al. 2025). Future research should include comparative effectiveness and qualitative research (e.g., grounded theory or ethnography) needed to rigorously analyze data, possibly triangulated with practice-level quality-of-care data. Finally, the results, discussion and implications of this present paper are presented in the context of nursing leaders. Future work should be centred around the implications for primary care leadership and policy makers outside of nursing who can collectively reshape policy and practice.

Conclusion

Established theoretical frameworks to inform practice and workflow initiatives when embedding RNs into primary care may be useful for nursing leaders to isolate effective structure, processes and outcomes. Challenges such as nursing nomenclature, inadequate training opportunities and lack of standardized competencies and metrics to evaluate primary care nursing contributions exist. Future research should include comparative effectiveness studies that compare practice and workforce outcomes when RNs are embedded in primary care.

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