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Registered Nurses' Association of Ontario
L'Association des infirmières et infirmiers autorisés de l'Ontario

MIND the SAFETY g a p

in health system transformation: RECLAIMING THE ROLE OF THE RN

RNAO extends its gratitude to the many nurses and nursing students whose voices have inspired and informed the development of this report. A special appreciation to RNAO's board of directors for their input on the report's major thrust and key concepts, and to Immediate Past-President Vanessa Burkoski and President Carol Timmings for reviewing the final version.

Authors: Doris Grinspun, Anastasia Harripaul-Yhap, Kim Jarvi and Tim Lenartowych

Editors: Daniel Punch and Marion Zych

Report Design: Olga Gabrieleva

Data for the nursing workforce trends section was obtained from the College of Nurses of Ontario (CNO). The calculations, analyses, conclusions, opinions and statements expressed herein are those of RNAO, and are not necessarily those of CNO.

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Executive Summary

In 2015, the Ministry of Health and Long-Term Care (MOHLTC) released three documents proposing action aimed at improving patient and family-centred care (PFCC) across the health system as part of its *Patients First* initiative. Key themes emerged from these documents: re-orienting the health system within community-based care; increasing public transparency; providing co-ordinated and integrated services that match population health needs; and monitoring health system performance and improving accountability.

Missing from the policy discourse thus far has been the critical and thoughtfully planned health human resources (HHR) required to advance the province's health and health-care transformation agenda. In its absence, health organizations experiment with care delivery and staffing changes that are driven more by budgets than by evidence.

This report is an urgent call for an interprofessional HHR plan for Ontario that would follow a transparent, evidence-based, and engaged process. We focus our report on nursing, and see it as an installment for the broader made-in-Ontario HHR plan.

Nursing represents the largest HHR share in the province. This report is based on the foundation that all care providers in the profession are valued contributors to the health of Ontarians and our health system. They each have defined scopes of practice and competencies, and these must be understood and utilized appropriately if we want to ensure timely access to safe and high-quality patient care and optimized health outcomes.

The report has seven sections. First, it summarizes current health system policy imperatives based on the Government of Ontario's priorities for PFCC. Second, it highlights the nursing priorities needed to advance PFCC. Third, it provides an in-depth review of the nursing human resources landscape over the past 10 years. In section four, we compare and contrast emerging nursing human resource trends with the government's priorities for PFCC. In section five, we review the most prevalent organizational models of nursing care delivery and practices, and in section six, these are compared and contrasted with the government's priorities for PFCC. Section seven focuses on the report's recommendations.

The conclusion we draw from our analysis is that trends in nursing skill mix and organizational models of nursing care delivery run counter to the Ontario government's goals for the health system.

For example, Health Minister Eric Hoskins plans to bring care closer to home. As hospitals discharge patients sooner, we will be confronted with higher care complexity in our hospitals, in home health care and in long-term care (LTC). This is a reality today, and one that will accelerate in years to come. Bringing care closer to home is what Ontarians want and need. But to be genuine, this desire must account for Ontarians' current and future care complexity needs, and our workforce must be planned accordingly. Our analysis shows the

contrary, and it calls on the government to reclaim the role of the RN in the name of patient safety and improved health outcomes.

Data shows that over the past 10 years in Ontario, there has been a marked increase in registered practical nurse (RPN) employment. As a result, there has been instability and a lack of growth of registered nurse (RN) positions. This has compromised the health system's readiness and ability to care for the most complex and unstable patients across all sectors. Indeed, the College of Nurses of Ontario (CNO) clearly delineates that RNs care for complex and unpredictable patients, while RPNs care for less complex and predictable patients, and unregulated providers provide care as delegated by nurses.

Ontario has a choice. RNs, nurse practitioners (NP), RPNs, and nursing students have been champions of PFCC. As the largest regulated health workforce, nursing can fuel the bold and visionary health system transformation proposed by Minister Hoskins. RNAO believes that to optimize our nursing workforce and prepare it to serve Ontarians now and into the future, we must take charge, anticipate needs and mobilize four priorities:

1. appropriate nurse skill-mix utilization
2. organizational models of nursing care delivery that advance care continuity
3. maximize and expand scopes of practice
4. evidence based-practice

This report tackles the first two priorities as two of the key elements in HHR planning central to advancing timely access to safe and quality care and PFCC. The latter two are accounted for in separate reports.

We offer eight recommendations to advance the MOHLTC transformation agenda for PFCC:

1. **The MOHLTC develop a provincial evidence-based interprofessional HHR plan to align population health needs and the full and expanded scopes of practice of all regulated health professions with system priorities**
2. **The MOHLTC and Local Health Integration Networks (LHIN) issue a moratorium on nursing skill mix changes until a comprehensive interprofessional HHR plan is completed**
3. **LHINs mandate the use of organizational models of nursing care delivery that advance care continuity and avoid fragmented care**
4. **The MOHLTC legislate an all-RN nursing workforce in acute care effective within two years for tertiary, quaternary and cancer centres (Group A and D) and within five years for large community hospitals (Group B)**
5. **LHINs require that all first home health-care visits be completed by an RN**
6. **The MOHLTC, LHINs and employers eliminate all barriers, and enable NPs to practise to full scope, including: prescribing controlled substances; acting as most responsible provider (MRP) in all sectors; implementing their legislated authority to admit, treat, transfer and discharge hospital in-patients; and utilizing fully the NP-anaesthesia role inclusive of intra-operative care**
7. **The MOHLTC legislate minimum staffing standards in LTC homes: one attending NP per 120 residents, 20 per cent RNs, 25 per cent RPNs and 55 per cent personal support workers**
8. **LHINs locate the 3,500 CCAC care co-ordinators within primary care to provide health system care co-ordination and navigation, which are core functions of interprofessional primary care**

The future of the health system is exciting, but it can be aided or hindered by maximizing evidence-based investments in health human resources. Let us keep in mind that the intent of Minister Hoskins' health system restructuring plans is to put patients first. Front and centre are Ontarians, who expect any changes to improve their experiences and health outcomes and strengthen the publicly-funded, not-for-profit health system. The time has come to truly put patients first.

Introduction

Ontario's health system is in a rapid state of change and on the cusp of major transformation to optimize service delivery. In 2015, Ontario's Ministry of Health and Long-Term Care (MOHLTC) produced three reports to direct health system evolution and restructuring to put patients first. RNAO supports these efforts and affirms its deep commitment to patient and family-centred care (PFCC). However, we are gravely concerned that the capacity to deliver on this promise is curtailed by the province's lack of attention to health human resource (HHR) planning. As a result, health organizations are engaged in unfettered experimentation. In nursing, the government and its agencies (e.g., Local Health Integration Networks) have allowed employers to make significant changes to nursing skill mix and adopt organizational models of nursing care delivery that are proven to be harmful and ineffective.

RNAO believes a nursing human resources strategy is not as simple as finding the "right" numbers. It is about effectively matching human resources with the needs of patients (Bylone, 2010). Nursing is not about completing a series of tasks. The professional value of nursing rests in providing holistic care that supports wellness, healing, curing, recovery, dying and self-determination (Bylone, 2010). Being the largest regulated workforce in the health system, it is imperative that nurses are fully engaged in the evolution of the health system to ensure that service delivery remains person and family-centred and of high quality (McBride, Delaney & Tietze, 2012). This can only be accomplished through evidence-based practice and policy, full and expanded scope of practice utilization, robust interprofessional practice, effective organizational models of nursing care delivery, and appropriate skill mix.

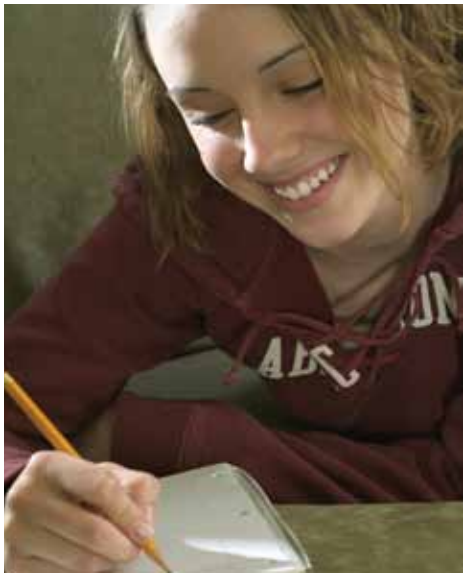
Data shows there have been marked changes to nursing skill mix and organizational models of nursing care delivery in Ontario. In this province, registered practical nurses (RPN) study for two years and acquire a diploma in practical nursing (CNO, 2016a). Registered nurses (RN) study for four years and acquire a baccalaureate degree in nursing (CNO, 2016a). The College of Nurses of Ontario (2014b, pg 3) indicates: "RNs and RPNs study from the same body of nursing knowledge. RNs study for a longer period of time, allowing for greater foundational knowledge in clinical practice, decision-making, critical thinking, leadership, research utilization and resource management." Nurse practitioners (NP) have advanced university education and experience enabling them to build upon the competencies of the RN and apply a much broader scope of practice (RNAO, 2016a; College of Nurses of Ontario [CNO], 2014a).

From 2005-2010, the ratio of total RNs to RPNs in Ontario was 3:1. That ratio has since dropped steadily, and in 2015 was 2.28:1 (RNAO, 2016b). This decrease has occurred parallel to an increase in functional and team-based organizational models of nursing care delivery. These organizational models were abandoned in the 1970s due to their ineffectiveness, but have since been resurrected (Tiedeman & Lookinland, 2004). Most health organizations

who have pursued these changes say they are simply responding to budgetary constraints. Alarmingly, no provincial or regional analysis has been presented to date to examine the alignment between nursing human resource trends and health system policy priorities. Nor has adequate thought been given to the cumulative impact of these changes on the sustainability of the nursing workforce, patient outcomes and health system effectiveness.

We carefully chose the title of this report, *Mind the safety gap in health system transformation: Reclaiming the role of the RN*. It conveys the reality that while Ontario is set to embark on an ambitious path of health system transformation to put patients first, there are serious gaps in the planning and utilization of nursing human resources. Most notably, there is a gap in RN utilization and consequently, a gap in ensuring patient safety and optimal health outcomes. It is also a call for action, if we are truly to put patients first, we must close this gap.

The report offers a set of system level nursing human resource recommendations, applicable to the province as a whole, to ensure the nursing workforce is utilized in ways that contribute to successful health system transformation.



Government Priorities for Health System Transformation

Ontario is fortunate to have a strong publicly-funded, universally accessible and predominantly not-for-profit health system. A great foundation is in place to design the health system's capacity to deliver stronger health and economic outcomes. It is in this context that RNAO welcomed the MOHLTC's three major reports in 2015. We see each as evolutionary steps to direct health system transformation to put patients first.

Patients First: Ontario's Action Plan for Health Care was released in February 2015 to outline the government's commitments to transform the health system by putting patients at the centre (MOHLTC, 2015a). The plan outlined four key objectives: 1) improving timely access to the right care, 2) connecting services by delivering better co-ordinated and integrated care closer to home in the community, 3) supporting people and patients by providing the education, information and transparency they need to make the right decisions about their health and 4) protecting the universal public health-care system by making decisions based on value and quality to sustain it for generations to come.

Next was ***Patients First: A Roadmap to Strengthen Home and Community Care*** released in May 2015 in response to the Expert Group on Home & Community Care's recommendations (MOHLTC, 2015b). This report outlined 10 initiatives to improve the quality, co-ordination and integration of home and community care.

Finally there was ***Patients First: A Proposal to Strengthen Patient-Centred Health Care in Ontario*** released in December 2015, highlighting four proposals for structural realignment that include: 1) expanding the role of Local Health Integration Networks (LHIN), 2) enhancing primary care, 3) transferring Community Care Access Centre (CCAC) functions and 4) better aligning public health with the rest of the system to address current gaps (MOHLTC, 2015c).

Four themes emerged in all three of the MOHLTC reports for transforming Ontario's health system. For more information on how RNAO identified these themes, see Appendix A.

1. **Re-orient the System within Community-based Care**
2. **Greater Public Transparency**
3. **Providing Co-ordinated and Integrated Services that Match Population Health Needs**
4. **Monitor Health System Performance and Improve Accountability**

1. Re-orient the System within Community-based Care

The MOHLTC has proposed changes to shift the system and resources towards home and community-based care to better meet the needs of Ontarians. These changes are intended to respond to current challenges, such as difficulty accessing primary care providers (particularly on evenings and during weekends/holidays), a lack of consistency in home and community care services, public health services that are separate from the rest of the health system, and an overall fragmentation of health services (MOHLTC, 2015c). The MOHLTC has proposed expanding the role of the LHIN to encompass at least some planning and funding responsibilities for all sectors, including public health units (MOHLTC, 2015c). To match population health needs, funding for home and community care is set to increase by five per cent for the next three years (MOHLTC, 2015b). Given that the government is battling a provincial deficit, this increase will likely be accomplished via a shift in resources from elsewhere in the system. Integrated interprofessional providers will be established in primary care and home health care to ensure care is organized based on the needs of the population served (MOHLTC, 2015a; MOHLTC, 2015b). The MOHLTC will provide funding for bundled care approaches (a single payment to a group of interprofessional providers to deliver all care for a patient) as well as self-directed care options where patients and families are given funding to purchase the services they need from providers of their choice (MOHLTC, 2015b).

2. Greater Public Transparency

Seeking to improve PFCC, the MOHLTC has proposed processes to increase health system transparency and drive quality improvements (MOHLTC, 2015c). LHINs will partner with local clinical leaders to plan, manage and monitor primary care and lead community engagement initiatives (MOHLTC, 2015a; 2015c). LHINs will also be tasked with reducing health inequities by addressing the specific needs of Indigenous peoples, Franco-Ontarians, newcomers and people living with mental health and addiction issues (MOHLTC, 2015c). At the systems level, the MOHLTC held public consultations to develop the necessary criteria for Ontario's first patient ombudsman. The MOHLTC also plans to standardize the provision of care across the province. For example, in home health care, a publicly available 'Levels of Care Framework' will be developed to make assessment and service delivery consistent across the province (MOHLTC, 2015b). Patients, advocates and caregivers will also be included in developing a statement of shared values to guide the transformation of home and community care, resulting in local level capacity plans and standards

to achieve access (MOHLTC, 2015b). As a quality improvement initiative, the MOHLTC has committed to preparing public reports about patient experiences (MOHLTC, 2015c).

3. Providing Co-ordinated and Integrated Services that Match Population Health Needs

Given that Ontarians are living longer, and many are coping with one or more chronic diseases, a holistic approach that leverages the unique knowledge and skill sets of interprofessional providers is necessary to provide quality care. In recognition of this trend, the MOHLTC has proposed strategies to match health services with population health needs. The integration of primary care, home health care, acute care, mental health and addiction services, and public health will need to occur to ensure equitable access to care across the province (MOHLTC, 2015c). Care transitions across different health sectors will be improved by integrating the system through Health Links, and funding models will change to cover all aspects in a patient's journey through the health system (MOHLTC, 2015a). Formal partnerships between LHINs and public health units will strive to facilitate more informed health service planning by developing a better understanding of population health needs, health inequities and available resources. LHINs will be further broken down into sub-regions to improve co-ordination and integration of local health services, including matching unattached patients to primary care providers (MOHLTC, 2015c). Interprofessional care will be enhanced in primary care through the integration of multiple health professionals to address complex needs (MOHLTC, 2015a). Primary care services will be improved to deliver care to underserved and vulnerable populations. The functions of CCACs are set to be transitioned to other areas of the system. For example, community care governance and LTC placement responsibilities will move from CCAC leadership to LHIN leadership and current care co-ordinators may be relocated to community settings to provide increased system navigation for patients (MOHLTC, 2015c). The MOHLTC has also proposed single payments to groups of providers to assume all the care needs of individual patients (MOHLTC, 2015b). The government has committed to supporting increased patient choice for palliative and end-of-life care (MOHLTC, 2015b).

4. Monitor Health System Performance and Improve Accountability

The MOHLTC aims to set standards and performance targets to improve consistency and quality of service delivery in Ontario (MOHLTC, 2015b; 2015c). To do so, LHINs will be divided into sub-regions for care planning and local performance measurement (MOHLTC, 2015c). Although planning will be at the local level, outcome measures, indicators and targets will be developed at the system level to ensure the entire province is delivering a higher quality of care (MOHLTC, 2015c). Outcome indicators measuring patient experience, including satisfaction and access to after-hours primary care, will be developed and compared with clinical standards and provincial targets (MOHLTC, 2015c). LHINs will partner with local clinical leaders to manage performance and planning in primary care. The capacity plans developed in home and community care will include targets, standards for access, and the quality of the patient experience (MOHLTC, 2015b). LHINs will also be tasked with collecting, assessing and publishing the data collected on patient-focused indicators (MOHLTC, 2015b). Providing overall LHIN-level results as well as sub-LHIN results will provide important information and comparisons regarding the performance, achievement and accountability of local regions (MOHLTC, 2015c). Sharing performance results with Ontarians allows them to provide input on how to improve the system, which fosters innovation (MOHLTC, 2015a).

Implications for Health System Planners

The context underpinning the health status of Ontarians is clear. A historic over-reliance on an illness-based health-care system, long-standing health inequities, and an aging population have all increased service demands and require a re-orientation of the entire health system. The MOHLTC has proposed ambitious plans to evolve and re-align the health system to better meet population health needs by shifting health services closer to home. Policy makers are grappling with the question: "What will the health system look like five, 10 and 20 years from now?" As a starting point, the shift of care to the community has broad implications for the entire health system. An emphasis on caring for people in the community means that the length of hospitalization is likely to decrease and hospital care will be prioritized for the most complex and unstable patients and those requiring elective surgery. This shift creates significant HHR implications for the sector and demands a highly knowledgeable and skilled workforce. Patients will be discharged from hospitals to the community earlier and with more complex care needs. To meet these requirements, it is imperative that the capacity of the community sector be strengthened through comprehensive public health services, an accessible primary health-care system with effective interprofessional teams, and robust home health-care and LTC sectors.

The relationship between the MOHLTC, LHINs and health service providers will need to be well defined and strengthened. While an expanded mandate for the LHINs can promote whole system planning, better integration and more effective system decision-making, the stewardship role of MOHLTC will become ever more important, and thus it must be strengthened. The ministry plays, and must increasingly play, a leading role for Ontario's health system. This includes: setting provincial standards and ensuring whole system accountability. Service delivery, on the other hand, must be left to direct provider organizations. LHINs cannot and should not be responsible for simultaneously rowing and steering the health system.

While the MOHLTC has proposed policy strategies to re-orient the health system towards community care, it has yet to produce a comprehensive interprofessional HHR plan to accompany these changes. Thoughtful deliberation is necessary to determine the population's health needs and the corresponding overall supply of health professionals based on full/expanded scope utilization and competencies.

Planning efforts at the provincial, LHIN and organization level must be aligned using a systems lens. Failure to do so will only perpetuate the silos and limitations of Ontario's health system. Such planning must first target keeping Ontarians healthy and well for as long as possible, followed by substantive efforts to delay and tackle chronic conditions so that we avert, or at least delay, complications. These are the targeted "goods" that will deliver health and economic outcomes for Ontarians. For these "goods" to become realities, health care cannot be treated as separate from social and environmental care. Thus, although outside the scope of this paper, RNAO insists that determinants of health must be at the centre of the government's health system transformation agenda.

Nursing Priorities to Advance Health System Transformation

RNs, NPs and RPNs have expertise in providing holistic care that focuses on upstream determinants of health, the unique individual, their life journey, their experience of health, and the role of their family and community in supporting health (RNAO, 2015).

Figure A (page 12) depicts RNAO's conceptualization of how timely access to safe and quality care and PFCC will lead to health system effectiveness, and what is needed to get there, including: HHR planning; full and expanded scope of practice utilization; inter-professional practice; and evidence-based practice and policy.

Nursing skill mix and organizational models of nursing care delivery are the focus of this report as two of the key elements in HHR planning central to advancing timely access to

safe and quality care, and PFCC. Full and expanded scope of practice utilization, interprofessional practice and evidence-based practice are addressed elsewhere (RNAO, 2009a; RNAO, 2016c; RNAO, 2016d; RNAO, 2016e). For example, to obtain more information on RNAO's comprehensive review on independent RN prescribing, including our submission to the Health Professions Regulatory Advisory Council (HPRAC), visit: www.RNAO.ca/RNPrescribing

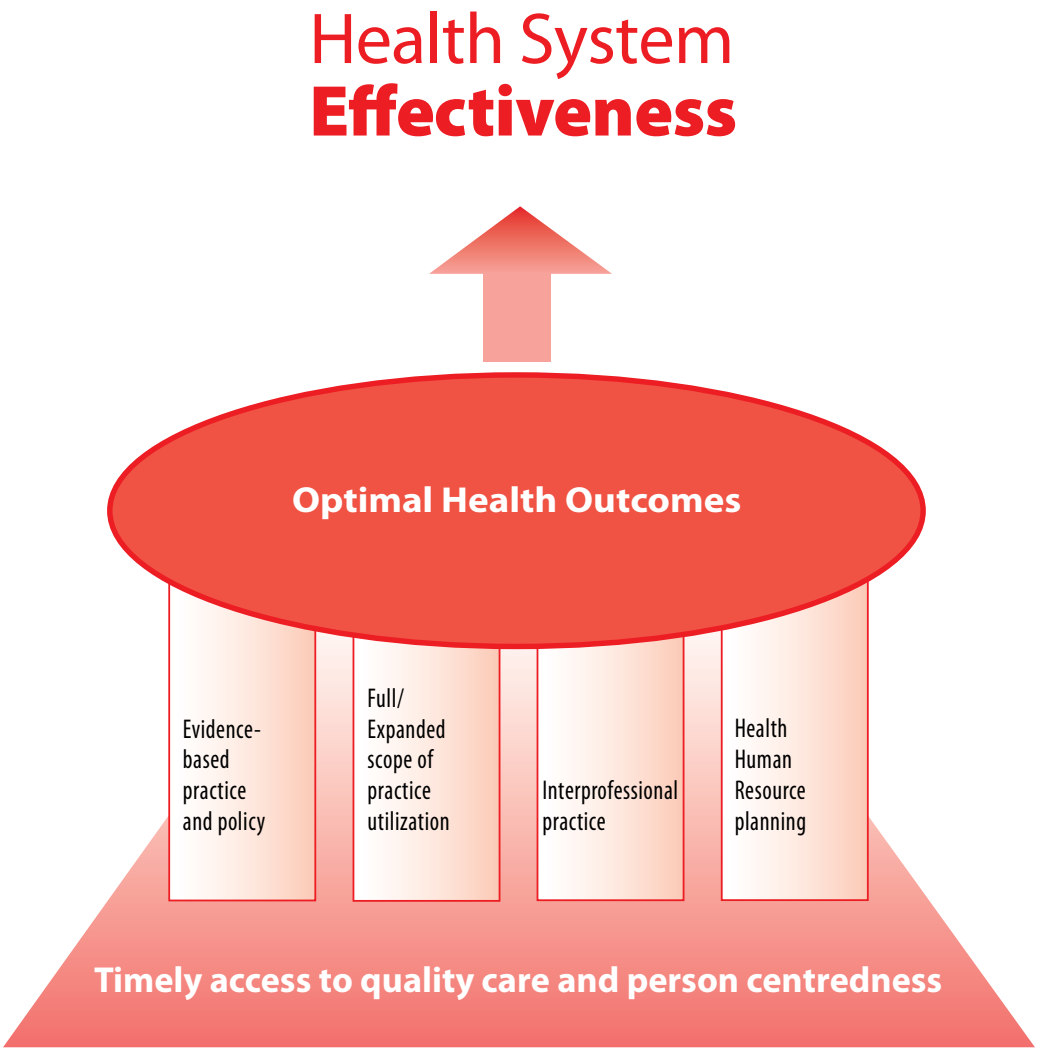


Figure A

Nursing Skill Mix

Nursing is the largest regulated health profession in Ontario. In 2015, 137,525 nurses were employed in the province, including 96,007 RNs, 2,407 NPs and 39,111 RPNs (RNAO, 2016b). Nurses have the knowledge and skills to fuel the health system transformations proposed by the MOHLTC, making it critically important to ensure the nursing workforce of the future is well planned and appropriately utilized.

While all nurses have a role in the health system, they are erroneously considered by some as interchangeable. Nursing skill mix is often considered as a workforce distribution of nursing categories and unregulated care providers (i.e. RN, NP, RPN, UCP) (Stearns et al., 2007). Where multiple providers exist, skill mix is expressed by proportionality in relation to the whole of the nursing workforce. Effective skill mix decisions are essential to optimize timely access to safe and quality care, and outcomes for patients, organizations and the health system. Inappropriate skill mix decisions put achieving the substantial health system transformation the MOHLTC is championing at risk.

According to the College of Nurses of Ontario (CNO): "RNs and RPNs study from the same body of nursing knowledge. RNs study for a longer period of time, allowing for greater foundational knowledge in clinical practice, decision-making, critical thinking, leadership, research utilization and resource management. As a result of these differences, the level of autonomous practice of RNs differs from that of RPNs. The complexity of a client's condition influences the nursing knowledge required to provide the level of care the client needs. A more complex client situation and less stable environment create an increased need for consultation and/or the need for an RN to provide the full range of care requirements." (CNO, 2014b). NPs have graduate university education enabling them to build upon the competencies of the RN and are legislated to apply a much broader scope of practice (RNAO, 2016a; CNO, 2014a).

HHR planning must ensure that nurses are strategically distributed in the system based on their knowledge, competencies, experience, and skill. In Ontario, the CNO has developed a *Three Factor Framework* to guide decisions about the utilization of RNs and RPNs to provide safe and ethical care (CNO, 2014b).

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RNAO also offers clear guidance on the distinct use of RNs and RPNs through its position statements (RNAO, 2010a; RNAO, 2010b; RNAO, 2011). RNAO addresses the role of NPs in a toolkit and numerous documents including submissions to CNO and government, responses to HPRAC, and generally within RNAO's advocacy work (RNAO, 2016f).

Recent organizational nursing skill mix changes have focused on replacing RNs with RPNs, and replacing RNs

and/or RPNs with UCPs. These changes are based on budgetary decisions and not on patient care needs or evidence. By contrast, appropriate skill mix decisions match patient need with provider competency. This ensures that nurses can adapt to their environment, foster continuity of care and continuity of care provider, respond to emerging health complications or emergencies, accurately assess their patients and communicate with other members of the care team (Al-Mazrooa, 2011).

Through a primary nursing model of care delivery, individual patients are assigned to the most appropriate nurse (RN or RPN) who acts as their primary nurse throughout the entire care process, providing all aspects of nursing care.

Clients with high complexity, low predictability and high likelihoods of experiencing negative outcomes should receive total care from RNs (CNO, 2014b). This is increasingly important when the practice environment is less stable, and more specifically in environments with unclear or unidentified practice support resources (policies, procedures, plans of care, assessment tools), few consultation opportunities, high patient turnover and unpredictable events (CNO, 2014b). Stable patients with predictable outcomes can safely receive total care from RPNs (CNO, 2014b). If a patient's condition is unknown, they should be assigned an RN to reduce disruption in care (RNAO, 2010b). Having consistency in caregiver allows nurses to develop a deep understanding of patients and families, which is fundamental to practising with a person and family-centred approach. The role of UCPs should be to support the nurses (RNs or RPNs) who are providing total patient care by completing delegated tasks under their supervision and without disrupting the continuity of care provided by the nurse (Grinspun, 2010; RNAO, 2010b).

In some health service organizations, RNs are required by legislation. For example, the *Health Protection and Promotion Act* section 71 (3) clearly stipulates that public health nurses must be registered nurses with a baccalaureate degree (Government of Ontario, 1990 [currency 2015]). Similarly, in LTC, regulation stipulates that a RN, who is both an employee of the home and part of the LTC home's nursing staff, must be on duty and present in the home at all times (Government of Ontario, 2007 [currency 2016]).

Organizational Models of Nursing Care Delivery

Organizational models of nursing care delivery refer to how skill-mix applications are implemented to deliver nursing care and provide the structure to support practices that influence continuity of care and caregiver. A key facilitator of PFCC in nursing is the development of an empowering partnership between the nurse and the patient and family (Ciufo, Hader & Holly, 2011; Corlett & Twycross, 2006; Franzel, Schwiegershausen, Heusser & Berger, 2013). Through these partnerships, nurses are able to develop plans of care that incorporate patients' values, preferences, goals, beliefs, life context, and families (Mackean et al., 2012). Nurses develop

these plans of care by empowering patients to be involved in decisions that affect their health, sharing information about the benefits and risks of care options congruent with the patient's level of health literacy, confirming the patient understands their care options, being accessible, and respecting the patient's right to make final decisions about their care (Aujoulat, d'Hoore & Deccache, 2007; Duncan, Best & Hagen, 2010; Harun, Harrison & Young, 2013; Renzaho, Romios, Crock & Sønderland, 2013; RNAO, 2015). PFCC involves interdependence and reciprocity between nurses, patients and their families, which culminates in an experience leaving all parties feeling secure, a sense of belonging, purpose, achievement and significance (National Ageing Research Institute, 2006). Thus, continuity of care and continuity of care provider are essential enablers of PFCC.

RNAO believes the model that best achieves PFCC is one in which the nurse takes full responsibility for patient care on a continuous basis. Through a primary nursing model of care delivery, individual patients are assigned to the most appropriate nurse (RN or RPN) who acts as their primary nurse throughout the entire care process, providing all aspects of nursing care (Grinspun, 2010). It facilitates PFCC as nurses focus on conserving the wholeness (or health) of the patient and their family (Mefford & Alligood, 2011). Primary nursing is associated with improved outcomes for patients, nurses, and work environments when implemented through a supportive culture (Drach-Zahavy, 2004; Mattila et al., 2014). This organizational model of nursing care delivery provides nurses with the time to understand patients' non-verbal cues and intervene early when signs of disease progression appear (Mefford & Alligood, 2011). Furthermore, when nurses practice in primary nursing models, they have more autonomy, increased accountability for the care they provide, and improved clinical decision-making skills (Wolf & Greenhouse, 2007). Primary nursing is an enabler of effective interprofessional collaboration through consistency and does not prevent intraprofessional relationships. Evidence indicates that models of primary nursing are less costly for organizations than team-based models due to the decrease in administrative and supervisory activities (Gardner & Tilbury, 1991; Wolf & Greenhouse, 2007). Most importantly, organizational models of nursing care delivery set the philosophical approach to care provision and should reflect the overall values of the public.

... effective skill mix decisions and care delivery models are essential ingredients for the success of a health system and ought to be understood and seriously considered by system planners.

Clearly, effective skill mix decisions and care delivery models are essential ingredients for the success of a health system and ought to be understood and seriously considered by system planners. The balance of this report will review HHR trends in parallel to health system priorities.

Reviewing the Numbers: Trends Emerge

This section provides RNAO's nursing human resource trend analysis using data obtained from the College of Nurses of Ontario (CNO), which is the regulatory body for nursing in Ontario.

There are some limitations with the data. First, the CNO changed their data dictionary in 2010 and revised the categories of Primary Area of Practice. The Ambulatory/Outpatients and Paediatric categories were removed while the following categories were added: Chronic Disease Prevention/Management, Infection Prevention/Control, Telehealth Services, Acute Care, Cancer Care, Cardiac Care, Diabetes Care, Foot Care, Nephrology and Sales.

Starting in 2011, the CNO started reporting position counts, rather than the head counts that it had reported prior to that date. That means that nurses with multiple employment positions are generally counted once for each position, thus overstating employment relative to the pre-2011 period. In this report, post-2010 data report the numbers of nurses with at least one position in the given sector or area of practice (with the exception of primary care, where post-2010 counts are for nurses whose primary area of practice is in primary care). In contrast, pre-2011 data reflect the head counts of nurses whose primary position only was in the given area. Thus, the post-2010 data for sectors and areas of practice are inflated by the inclusion of nurses whose primary employment was not in that sector or area of practice. In this analysis, the pre-2011 and post-2010 data are described separately and the data presented are separated by a red line on the graphs provided.

Further, the data is self-reported, meaning it is based on the subjective nurses' interpretations of the categories. The categories themselves are not mutually exclusive, which further augments the limitations of the data. Finally, data for each year are reported based on the nurses' circumstances at the time of registration and are not necessarily reflective of employment during that full year.

Registered Nurse Employment

Over the past 10 years, RNs were primarily employed in the hospital sector, followed by the community sector. From 2005-2010, RN numbers grew in the hospital, public health and community sectors and declined in visiting nursing and long-term care (LTC). Following a drop in RN numbers in hospital care in 2011, there has been a steady increase in the number of positions in hospital. (as noted above, this does not take into account multiple job holding). This drop in RN numbers coincided with an increase in RNs in the community and there has been continued growth in the community sector since. With respect to areas of practice, there was a jump in the numbers in primary care after 2010, followed by a continued rise. In contrast, there was a drop in the number of public health nurses. Due to the change in definitions, caution is recommended in interpreting the drop in reported public health positions, which may, in part, be due to the dilution effect of the increased number of CNO categories for areas of practice. On the other hand, the jump in the number of primary care nurses happened in spite of the addition of new categories for area of practice. This suggests that the sharp increase in the number of reported primary care positions between 2010 and 2011 could well reflect actual growth in the numbers of those positions.

Overall, RN employment growth has done little more than keep pace with population growth, at times falling below it. As will be seen later, NP and RPN employment have markedly exceeded that of RN growth, meaning that the RN share of employment has been dropping steadily. Figure 1 shows the trends in RN employment within each sector. Figure 2 shows the trends for RN employment in three selected areas of practice.

RN Employment by Sector

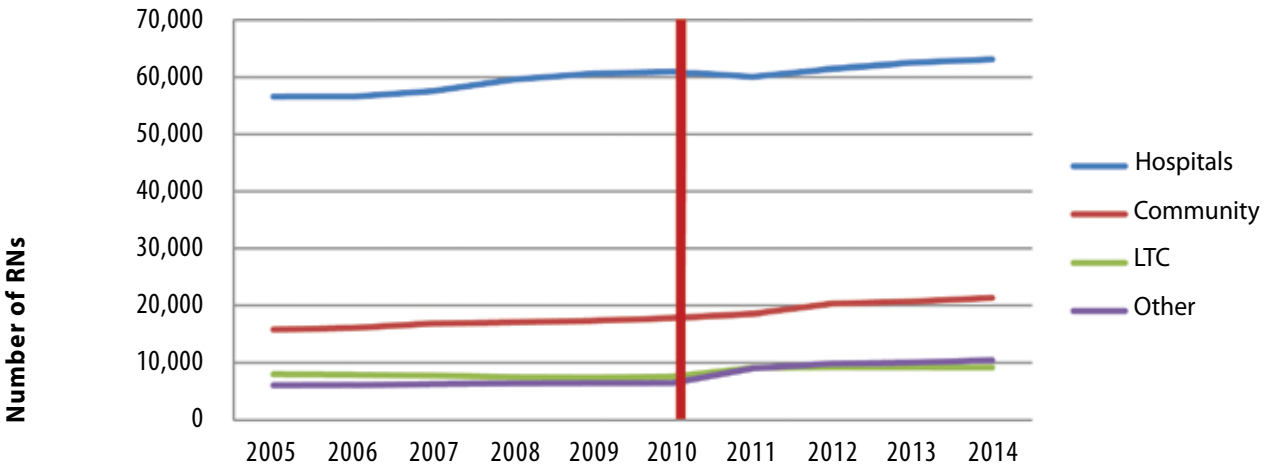


Figure 1 shows the small growth in RN employment across sectors.

RN Employment in Selected Areas of Practice

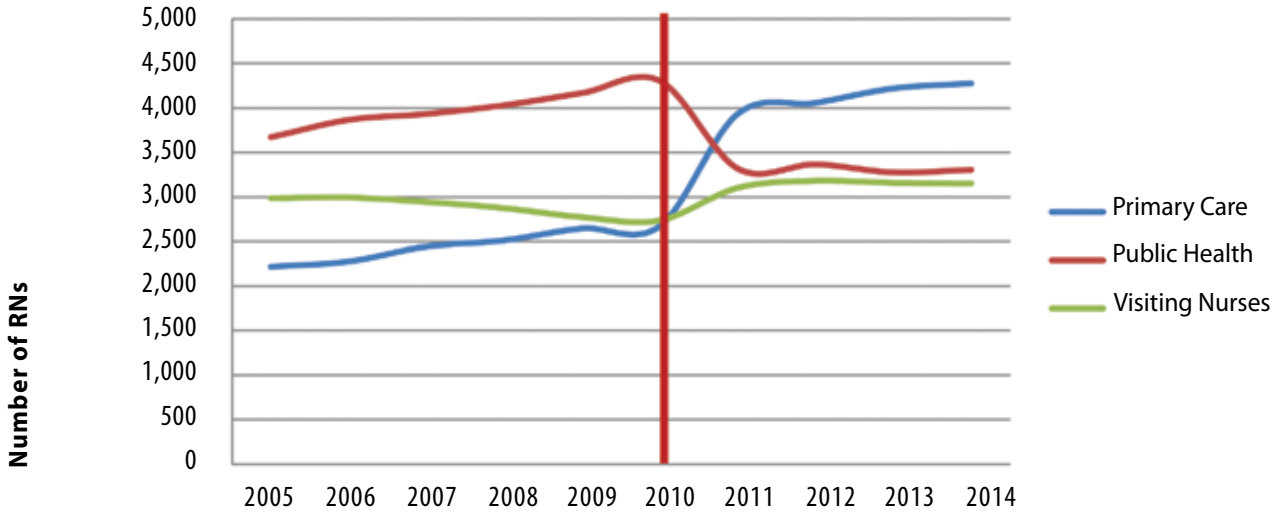


Figure 2 shows the growth of RN employment in primary care and home health care (visiting nurses) as well as the sharp decline of RN employment in public health.

Nurse Practitioner Employment

From 2005-2010, NP numbers in most sectors (primary care, community, hospital, and LTC) doubled, indicating an overall rapid rate of growth in NP employment in Ontario. Just one NP worked as a visiting nurse in 2005, compared to eight in 2010. Public health experienced a slower increase over the five years (25 NPs in 2005 to 35 in 2010). Similar trends occurred from 2010-2014. However, NPs in public health declined from 34 in 2010 to 11 in 2015 and visiting NPs declined from eight in 2010 to five in 2014.

NP Employment by Sector

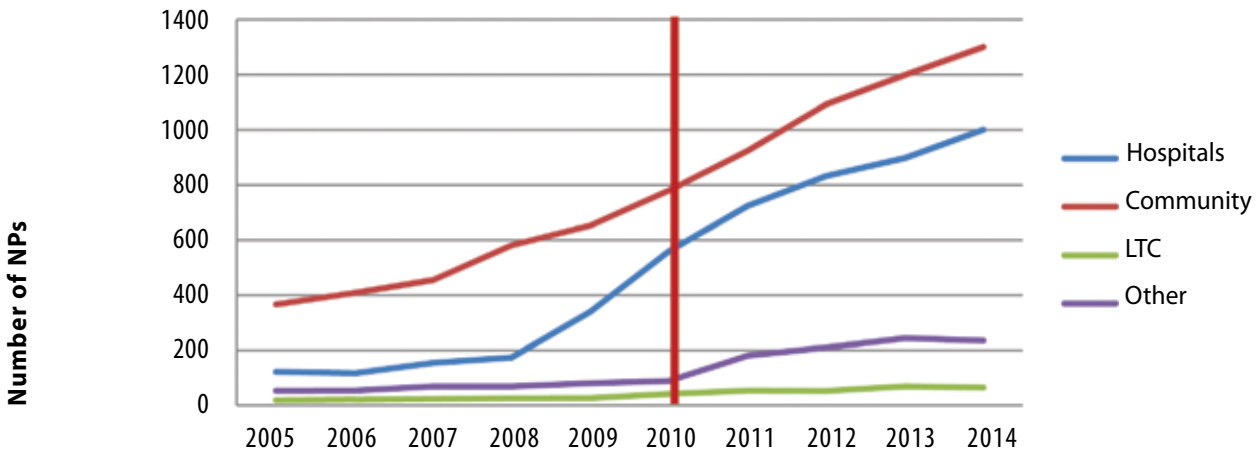


Figure 3 shows the strong upward trend in NP employment, with the most rapid growth in the hospital and community sectors. NP employment in the LTC and other sectors is comparatively small.

NP Employment in Selected Areas of Practice

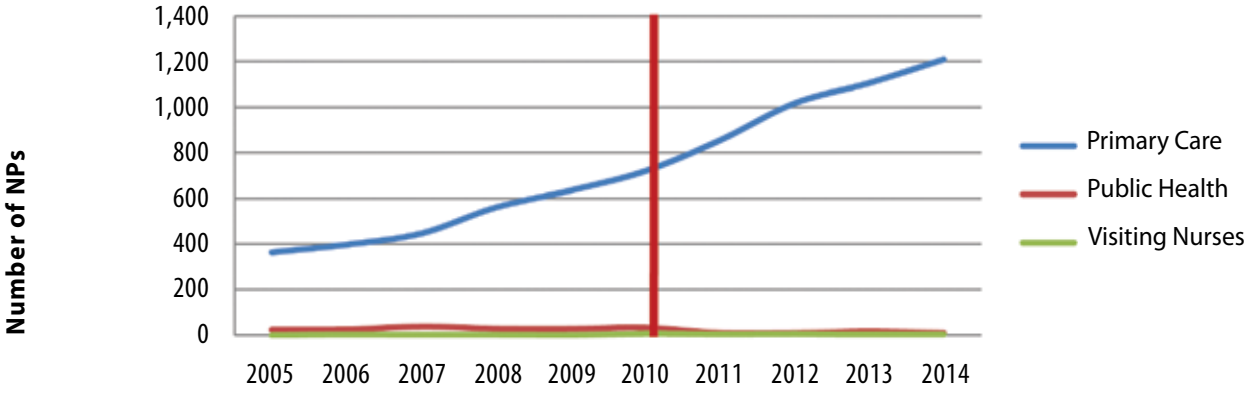


Figure 4 shows that primary care is the biggest area of practice for NPs, occupying well over half of all NPs. The gap is widening between primary care on the one hand, and public health and home health care on the other, as practice areas for NPs.

Registered Practical Nurse Employment

Over the past 10 years, RPNs have been primarily employed in the hospital sector followed by the LTC sector. From 2005-2010, there were approximately 2,500 more RPNs in the hospital sector than in LTC. From 2010-2014, that gap narrowed and in 2014 there were only 500 more RPNs in the hospital sector than in LTC. Growth of RPNs in community care dramatically increased from 2010-2014 compared to 2005-2010. In the first half of the data (2005-2010) there was an increase of 1,432 RPNs in five years whereas 2010-2014 had an increase of 3,221 RPNs.

RPN Employment by Sector

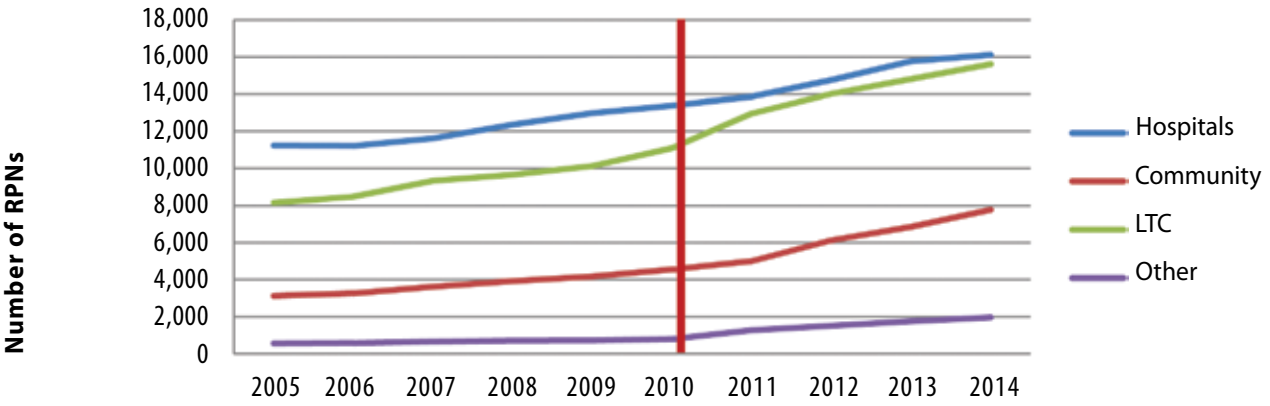


Figure 5 shows the strong upward trend in RPN employment in all sectors. Due to strong growth in LTC employment outstripping growth in hospital employment, the former has almost caught up to the latter. Nevertheless, there are even more rapid rates of growth in the community and other sectors for RPNs, although they still remain considerably below the hospital and LTC sectors.

RPN Employment in Selected Areas of Practice

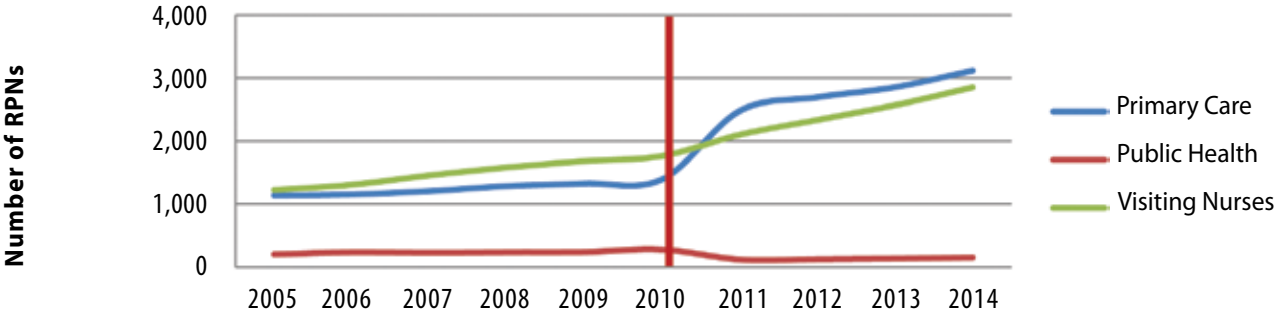


Figure 6 shows the rapid growth in primary care and home health care (visiting nurses) as areas of practice for RPNs.

Employment Trends for the Three Classes of Nurse

There is a shift away from RN employment to RPN employment. In the hospital sector for example, RPN employment growth rates have more than doubled the growth rates of RN employment. This coincides with increasing reports of RNs being replaced with less qualified providers in hospitals. RPN employment growth rates in all sectors have outstripped RN growth rates by more than a factor of two.

The result of these uneven growth rates is a shift in the shares of employment held by the three classes of nurse. In all sectors, RNs have lost significant employment shares to RPNs. While NP employment has grown at a rapid rate, it still represents a small share of overall nursing employment. Thus, most of the loss in RN employment share has been to RPNs. The only practice area studied here where RNs have held their ground is in public health, continuing to dominate employment in that area. This is not surprising given the legislated requirement that a public health nurse be an RN.

Annual Rates of Change of
Nursing Employment in Ontario

Sector/Practice Area	Nurse Class	2005-10	2011-14	2005-14
Hospital Sector	RN	1.5%	1.6%	1.2%
	NP	35.6%	11.4%	26.3%
	RPN	3.6%	5.2%	4.1%
Community Sector	RN	2.4%	4.8%	3.4%
	NP	16.3%	12.1%	15.1%
	RPN	7.8%	15.9%	10.7%
Long-Term Care Sector	RN	-0.9%	0.4%	1.6%
	NP	17.2%	6.4%	14.6%
	RPN	6.4%	6.4%	7.5%
Other Sectors	RN	1.5%	5.1%	6.3%
	NP	10.9%	9.1%	18.0%
	RPN	7.5%	15.4%	15.0%
Primary Care	RN	3.8%	2.8%	7.6%
	NP	14.6%	12.2%	14.3%
	RPN	4.2%	7.9%	11.8%
Visiting Nurse	RN	-1.7%	0.5%	0.6%
	NP	51.6%	-5.9%	19.6%
	RPN	7.6%	10.7%	9.8%
Public Health	RN	3.2%	-0.1%	-1.2%
	NP	6.3%	0.0%	-8.7%
	RPN	6.5%	8.1%	-3.1%

Figure 7

Figure 8 shows the pronounced shift away from RN employment.

The Changing Share of **Nursing Employment in Ontario**

Sector/Practice Area	Nurse Class	2005	2014
Hospital Sector	RN	83.3%	78.7%
	NP	0.2%	1.2%
	RPN	16.5%	20.1%
Community Sector	RN	82.0%	70.2%
	NP	1.9%	4.3%
	RPN	16.1%	25.5%
Long-Term Care Sector	RN	49.4%	37.0%
	NP	0.1%	0.3%
	RPN	50.5%	62.8%
Other Sectors	RN	90.7%	82.6%
	NP	0.8%	1.9%
	RPN	8.5%	15.6%
Primary Care	RN	59.6%	49.7%
	NP	9.8%	14.0%
	RPN	30.6%	36.3%
Visiting Nurse	RN	70.9%	52.5%
	NP	0.0%	0.1%
	RPN	29.1%	47.4%
Public Health	RN	94.1%	95.3%
	NP	0.6%	0.3%
	RPN	5.2%	4.4%

Figure 8

Working Status

There is considerable variation in working status among nurses, depending upon the class of nurse, the sector and the area of practice. In general, NPs tend to be more likely to have full-time employment than RNs, who in turn tend to have more full-time employment than RPNs. Nurses in the hospital sector are more likely to have full-time employment than those in the community sector. Still lower shares of full-time employment are held in the LTC sector, while the remaining sectors on average have the lowest full-time shares; the 'Other' sector also has striking high shares of casual employment. Of the three areas of practice reviewed here, nurses in public health are most likely to have full-time employment (with the exception of NPs). The full-time shares are disturbingly low in primary care (49 per cent for RN) and for visiting nurses (42.2 per cent for RN). Due to the problem of double-counting of nurses with multiple employments in different sectors, one cannot make inferences about the aggregate overall shares of full-time/part-time/casual employment for nurses across sectors. The aggregate full-time share is higher than the weighted average of full-time shares of the sectors combined together.

Ontario Nurses Working Status 2014
by Percentages

Sector/Practice Area	Nurse Class	% FT	% PT	% Casual
Hospital Sector	RN	65.4%	25.9%	8.7%
	NP	76.1%	11.1%	12.8%
	RPN	52.0%	37.0%	10.9%
Community Sector	RN	58.4%	25.2%	16.5%
	NP	74.6%	19.6%	5.8%
	RPN	48.6%	31.6%	19.8%
Long-Term Care Sector	RN	53.1%	29.3%	17.6%
	NP	50.8%	32.3%	16.9%
	RPN	49.9%	35.6%	14.5%
Other Sectors	RN	48.1%	29.0%	23.0%
	NP	26.4%	40.4%	33.2%
	RPN	45.8%	31.3%	22.9%
Primary Care	RN	49.0%	30.2%	20.8%
	NP	74.8%	17.0%	8.3%
	RPN	51.8%	31.0%	17.1%
Visiting Nurse	RN	42.2%	29.3%	28.5%
	NP	0.0%	0.0%	100.0%
	RPN	39.6%	35.2%	25.2%
Public Health	RN	76.1%	15.6%	8.2%
	NP	45.5%	27.3%	27.3%
	RPN	52.3%	15.7%	32.0%

Figure 9

Hospital

Hospitals are by far the largest employers of nurses. There was modest growth in RN employment in the sector: about a 1.2 per cent annual increase in counts. NP employment in the sector grew at a fast rate, with counts rising about 26.3 per cent annually, from 122 to 1,000 positions. RPN counts grew over three times faster than RN counts (about 4.2 per cent per annum). As a consequence, the RN share of hospital employment dropped from 83.3 per cent to 78.7 per cent, while the RPN share rose from 16.5 per cent to 20.1 per cent. That is striking considering rising patient acuity in hospital. The NP share rose from 0.2 per cent to 1.2 per cent. Figure 10 shows the trend.

Shares of Nursing Employment in the Hospital Sector

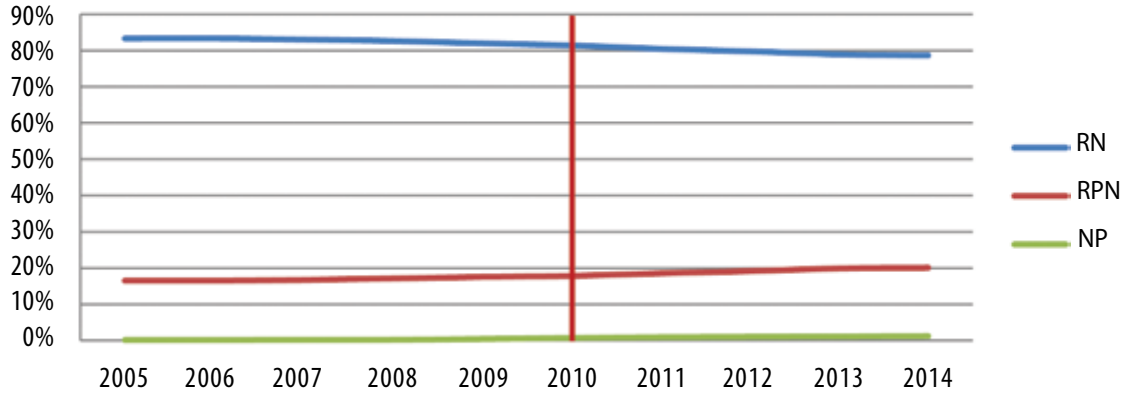


Figure 10

Community

The community sector encompasses a wide range of health organizations that are based in home and community care such as: community health centres, family health teams, hospices, public health units and CCACs (CNO, 2016b). The community nursing workforce has been comprised mainly of full-time RNs (41 per cent in 2014). Part-time and casual RNs comprised 29.2 per cent in 2014 followed by the RPN workforce at 26 percent in 2014 and the NP workforce making up the final 3.8 per cent. Nursing employment in the community sector has grown for all classes of nurse, with counts rising 3.7 per cent annually for RNs over the period. NP counts rose much faster at 15.1 per cent annually, on average. RPN counts rose 10.7 per cent annually on average. Figure 11 shows the result: the RN share of community employment dropped from 82 per cent to 70 per cent, while the NP share rose from 1.9 per cent to 4.3 per cent and the RPN share jumped from 16.1 per cent to 25.5 per cent. Access to full-time employment is a problem in the sector for both RNs and RPNs, as seen by Figure 9.

Shares of Nursing Employment in the Community Sector

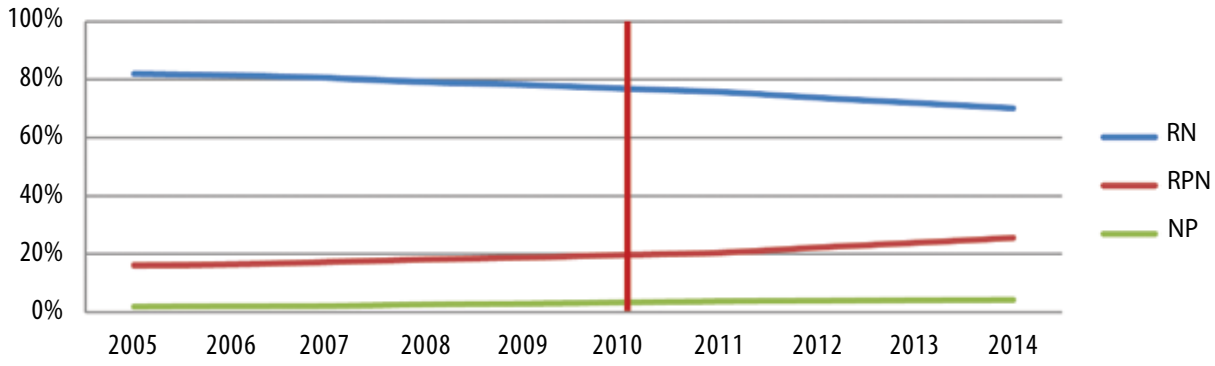


Figure 11

Visiting Nurses

Visiting nurses refers to nurses that provide services in the home or retirement homes (CNO, 2016b). RN employment grew very slowly over the analyzed period, with counts rising 0.6 per cent over the period, well below the population growth rate, implying less access to RN care. On the other hand, NP counts grew 19.6 per cent per year over the period and RPN counts grew 19.6 per cent. The resulting skill mix shift appears in Figure 12, with the RN share dropping from 70.9 per cent to 52.5 per cent, the NP share remaining negligible, and the RPN share rising from 29.1 per cent to 47.4 per cent. This is a dramatic shift. As with sectors and areas outside of hospitals and public health, full-time shares of employment among visiting nurses are low: 42.2 per cent for RNs and 39.6 per cent for RPNs.

Shares of Nursing Employment in the Visiting Nurse Practice Area

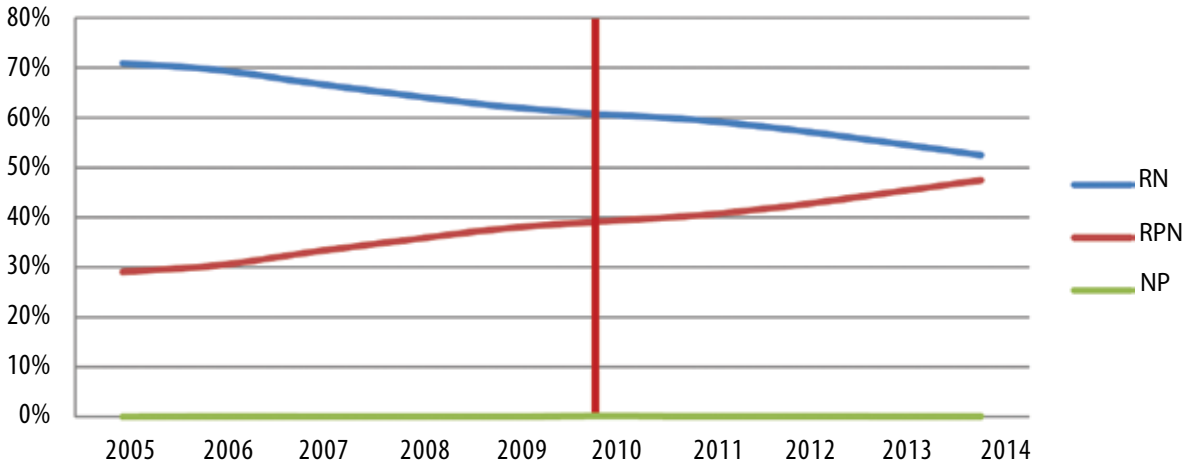


Figure 12

Primary Care

Reported nursing employment in primary care has shifted over the period analyzed. RN primary care figures jumped sharply after 2010, with a continued rise after that jump. Counts for NPs and RPNs have risen even faster, roughly tripling over the period. The net result has been a drop in the RN share of primary care employment from 60 per cent to 50 per cent, with rises for NPs (from 10 per cent to 14 per cent) and RPNs (from 31 per cent to 36 per cent). Full-time shares of employment in the practice area are low by provincial standards: 49 per cent for RNs, 75 per cent for NPs and 52 per cent for RPNs. Full-time RNs continue to comprise the largest portion of the workforce at 24.3 per cent in 2014. Full-time RPNs comprise the second-largest portion of the workforce at 18.8 per cent, outpacing growth in part-time RNs which comprise 15 per cent as of 2014.

Shares of Nursing Employment in Primary Care

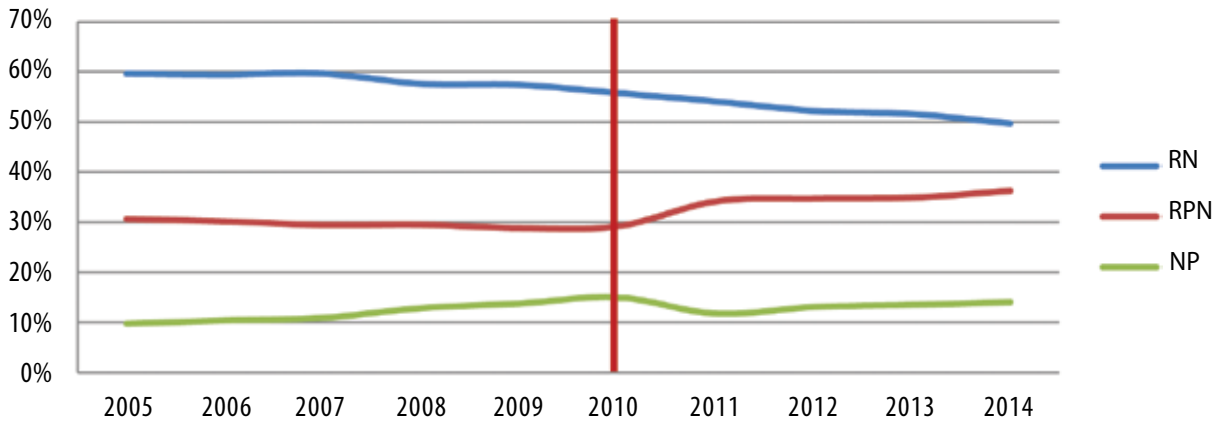


Figure 13

Public Health

Reported employment in public health has been volatile over the analyzed period, but as noted, that could be due to changes in the way that CNO collects its data. There was a measured drop in public health RN employment after 2010 by about a quarter. There was also a sharp drop in the very small NP counts (from 34 to 11). And there was a similar large drop in the RPN counts, from 279 to 121. Further investigation is required before making any inference, but the change in CNO data collection must be a major factor. Despite the volatility in counts, the shares in public health occupied by the three classes of nurse have been very stable: RNs dominate with 95 percent, while about 4 per cent are RPNs and less than 1 per cent are NPs. Public health nurses are predominantly full-time (76 per cent for RNs, with smaller full-time shares for the few RPNs and RNs in the practice area.

Shares of Nursing Employment in Public Health

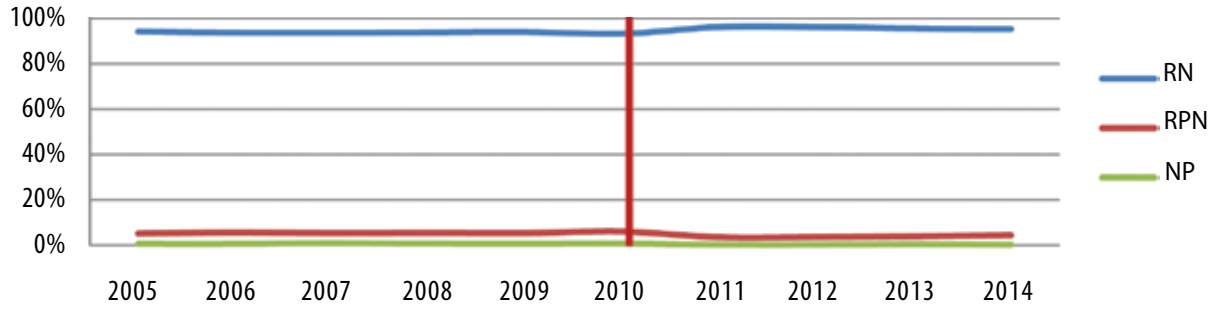


Figure 14

Long-Term Care (LTC)

As with hospitals, RN counts in LTC rose slowly over the period, at about 1.6 per cent annually. RPN counts rose much faster at about 7.5 per cent annually. NP counts rose faster still at around 14.6 per cent per annum. As a result, there has been a divergence of RN and RPN shares of employment, which were evenly split in 2005. The RN share dropped from 49.4 per cent to 37 per cent, while the RPN share rose from 50.5 per cent to 62.8 per cent. The NP share remains small, rising from 0.1 per cent to 0.3 per cent. See Figure 15.

Access to full-time employment in LTC remains limited: 53.1 per cent of RNs had it in 2014, along with 49.9 per cent of RPNs and 50.8 per cent of NPs. The gap between full-time RPNs and RNs has increased to 2,905 more RPNs, 2,864 more part-time RPNs than RNs, and 647 more casual RPNs than RNs. The growth in the RPN workforce has been so strong that there were more part-time RPNs than full-time RNs (668) in 2014. The rate of full-time NPs in LTC is at a five-year low (33 in 2014 compared to 42 in 2011). However part-time and casual NP positions are at a five-year high (21 and 11 respectively).

Shares of Nursing Employment in the Long-Term Care Sector

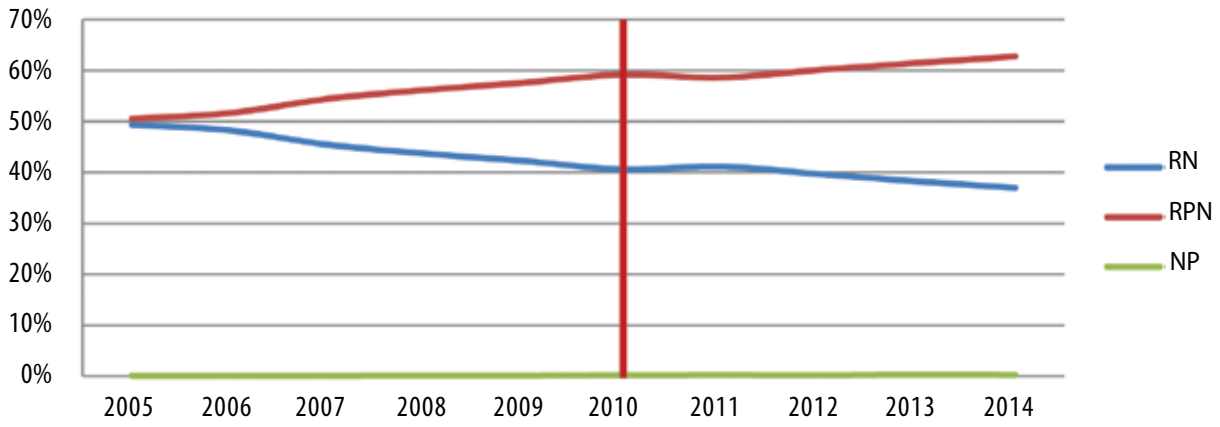
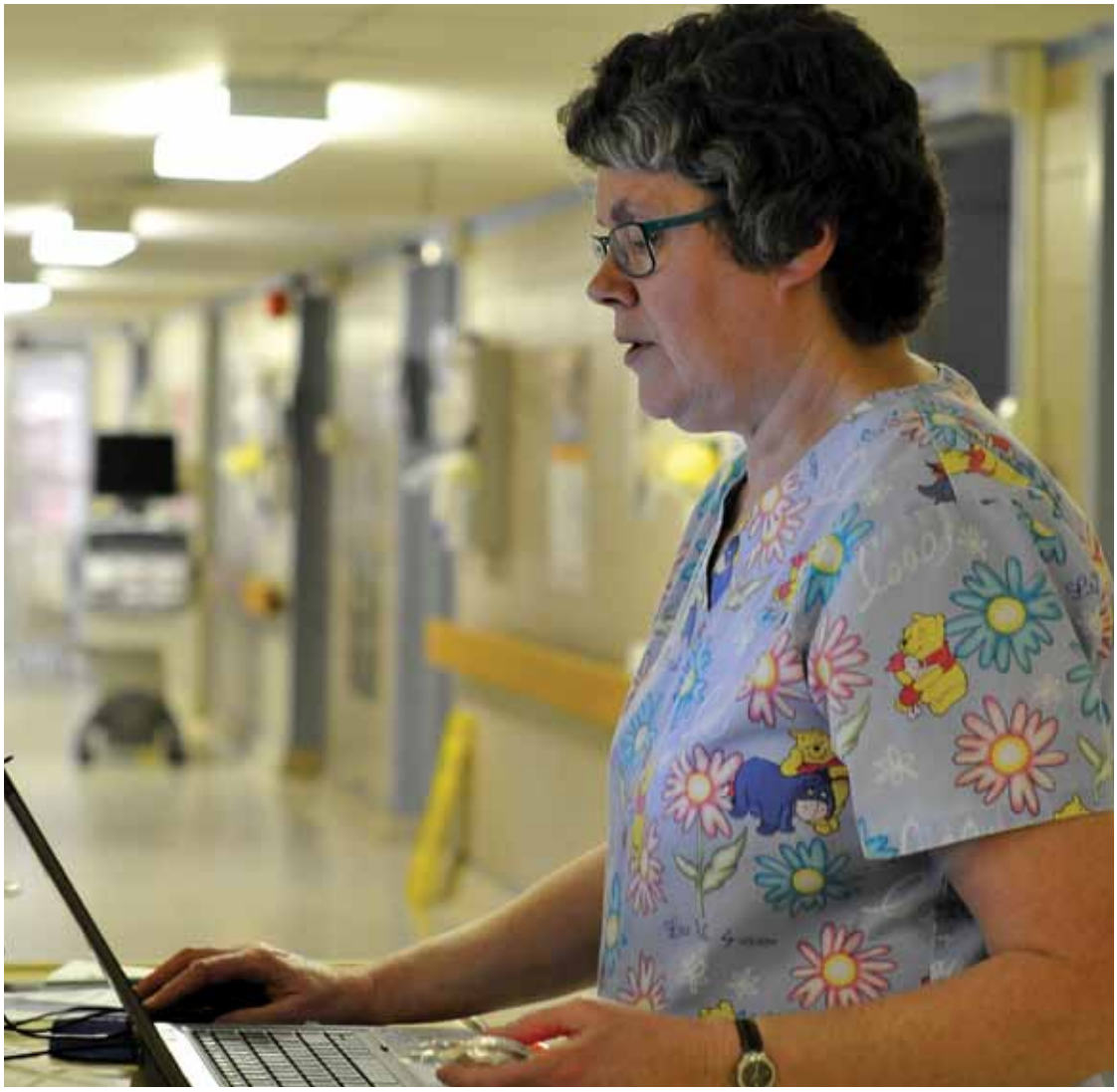


Figure 15

How Trends in Nursing Compare with Government Priorities: A Reality Check

While there has been some growth in RN employment, there has been substantial growth of the practical nursing workforce in the hospital and community settings. This has decreased the share of the nursing workforce held by RNs. This trend warrants concern because the complexity of care requirements and instability of the RN workforce in the hospital, home health-care and LTC sectors have and will continue to increase dramatically. To recap, the CNO requires that RNs deliver care for complex and unstable patients.

With the health minister's vision of care centred in the community, hospitals are being positioned to treat those who are acutely ill and have complex needs, or those undergoing elective surgery. It is questionable how hospitals will be able to safely and effectively fulfill this mandate when HHR trends show that the RN share of the nursing workforce is being



significantly eroded. Replacement of RNs with less-qualified providers is short-sighted and inconsistent with government plans to evolve the health system. Failure to ensure RN care is provided in hospitals threatens health system transformation goals, and compromises patient safety and health outcomes. The research is conclusive: fewer RNs means a heightened risk for patients and risks desired health outcomes, by increasing mortality and morbidity (Aiken et al., 2011; Ehsani et al., 2013; Estabrooks, Midodzi, Cummings, Ricker, & Giovannetti, 2005; Frith, Anderson, Fan & Fong, 2012; Glance et al., 2012; Hugonnet, Uckay & Pittet, 2007; Kane et al., 2007; Patrician et al., 2011; Rothschild et al., 2009; Tourangeau et al., 2007; Tubbs-Cooley et al., 2013; Twigg et al., 2012).

To protect patients, it is imperative that care needs be well-matched with nursing assignments (RNAO, 2007). Administrators will be challenged to make appropriate patient assignments when the organizational nursing skill mix does not respond to the level of patient complexity prevailing in Ontario. This will increase the liability risk for these facilities. Decision-makers must ask themselves if these risks are worth taking if it means gambling with the health and safety of patients.

A growing emphasis has been placed internationally on avoiding hospitalization. An advertisement placed in the *New York Times* by Manhattan's Mount Sinai Hospital indicates that: "If our beds are filled, it means we've failed" (Mount Sinai, 2015). Given the minister's desire to shift care to the community, Ontario is following suit with international trends, meaning discharge planning has become a greater priority. To ensure an appropriate length of hospitalization, a strong and robust community care nursing workforce must be in place. Advances in technology are supporting earlier discharge, however, this means patients will have more complex care needs ahead of leaving the hospital, and as they return back home or to LTC. In Ontario, the CCACs identified that "... the number of patients with higher needs has increased by 83 per cent over the last five years" (Ontario Association of Community Care Access Centre, 2014a, pg. 2). Thus, it is puzzling to see such significant increases in the RPN workforce, with minimal increases in the RN workforce. Undoubtedly there is a role for RPNs and also a role for unregulated care providers in the community, however, it is critical to match the appropriate resources needed in order to respond to complex care requirements. Otherwise, there is a significant risk for re-admission to hospitals. This produces both human and economic costs.

The minister is calling for a more co-ordinated approach to care delivery and more timely access to services. In 2012, an RNAO-led provincial task force identified the potential for an expanded RN role in the province that involves care co-ordination and authorization to diagnose and prescribe (RNAO, 2012a). The Ontario Primary Care Council (OPCC), a collective of the key primary care associations, determined that primary care is the most effective setting to offer comprehensive care co-ordination (OPCC, 2015). The OPCC has also identified having a point of contact as an enabler of success (OPCC, 2016). RNs are ideally suited to serve as care co-ordinators and system navigators (RNAO, 2014a). RNs have broad system knowledge, expert clinical background, an awareness of the determinants of health and excellent critical thinking skills – all necessary to provide high-quality care co-ordination services (RNAO, 2014a). Furthermore, the effectiveness of having RNs as care co-ordinators has been widely established when weighing the evidence. It means decreased costs, improved continuity of care, reduced mortality and hospital admissions, increased patient satisfaction, and improved adherence to treatment (Boyd et al., 2009; Boult et al., 2008; Gilbert et al., 2010; Haze & Lynaugh, 2013; Horner, Ludman, McCorkle, Canfield & Flaherty, 2013; Marstellar et al., 2010; McDonald et al., 2007; Napier-Skillings & MacLeod, 2009; Peikes, Chen, Schore, & Brown, 2009; Petereit et al., 2008; Seek & Hogle, 2006).

The role of the RN in Ontario is in the process of being expanded to include prescribing authority (Health Professions Regulatory Advisory Council, 2015). RNAO is calling for an independent model of prescribing (following a 300-hour course) that includes: the authority to order diagnostic tests, make and communicate a diagnosis, and prescribe medications (RNAO, 2016c). This uniquely positions the RN role – especially in public health, primary care, home health care, and LTC – to generate great value for Ontarians and the health system. For example, independent RN prescribing will make impacts in:

Public health: strengthen health system resilience to infectious disease threats, promote school health and increase the number of public health nurses in schools, improve social and environmental determinants of health and increase access to care for marginalized and vulnerable populations. Empower public health to ensure the sector's expertise in population health, upstream prevention and health equity is fully accounted for by the MOHLTC and the LHINs as they move to whole system planning, in order to keep people healthy and reduce health inequities.

Primary care: increase same-day access to appointments, and timely follow up in primary care (Carey, Stenner & Courtenay, 2009; Courtenay, Carey, Gage, Stenner & Williams, 2015; Courtenay, Stenner, & Carey, 2010; Goodwin, Higgins & Lewis, 2011). In collaboration with public health and other community health nurses, independent RN prescribing will improve access to care for First Nations, Inuit and Métis persons, refugees and newcomers to Canada, LGBTQ persons and incarcerated persons.

Hospital: improve timely access to symptom relief (e.g. vomiting), expedite flow (e.g. emergency departments), deliver prompt assessment and intervention (e.g. fluids), and initiate lifesaving measures when a physician and/or NP are not immediately accessible (e. g. sepsis management).

Home health care: respond to patients' needs in the home and community, while promoting continuity of care. RNs in the home could adjust medication doses for persons with chronic disease based on the patient's emerging needs (e.g. insulin), initiate needed treatment (e.g. ointments) in a timely way and/or renew established prescriptions on the spot. This information can then be relayed back to the patient's primary care provider to support the co-ordination of care.

Long-term care: reduce the need for resident transfers to acute care and prevent illnesses through high-quality care management and early intervention. Uncomplicated urinary tract infections, dehydration, hypoglycaemia and other conditions that frequently result in unnecessary emergency department transfer could be managed in the LTC home. This added value will help to reduce the progression of chronic disease by improving management and delaying or catching complications early.

To protect patients, it is imperative that care needs be well-matched with nursing assignments. Administrators will be challenged to make appropriate patient assignments when the organizational nursing skill mix does not respond to the level of patient complexity prevailing in Ontario.

RNAO stresses the important role that public health plays within a high-performing health system. The future envisioned involves aligning public health more closely with the health system. Public health nurses are critical to advancing effective population health planning, healthy public policy and service delivery. Public health nurses practise in a variety of roles that support population health assessment, health surveillance, health promotion, disease and injury prevention, health protection, emergency preparedness and response (Canadian Public Health Association, 2010). In their practice, they take into account the social determinants of health, all levels of prevention, community engagement, systems-thinking and population health status – skills and knowledge essential for moving the health system towards the vision set by the MOHLTC (Canadian Public Health Association, 2010). Maintaining a strong public health workforce that grows equivalent to the population is vitally important. RNAO is concerned and calls for investigation to determine the cause of the sharp decline of RN employment in public health after 2010, especially given the province's desire to build a resilient health system.

Organizational Models of Nursing Care Delivery: A Review

The earliest organizational model of nursing care delivery was patient allocation, where a group of patients was assigned to one nurse that provided their total care during a shift. This model is believed to have been adapted by Florence Nightingale and used during the Crimean War (Meehan, 2003). Models of patient allocation were renamed total patient care and persisted in the 1920s-1930s, when most care was provided in the home or hospital. Many nurses transitioned to hospital care during the Great Depression because rooming was provided with the position (Tiedman & Lookinland, 2004). This model resurfaced in the 1980s and remains popular today due to the high quality and care consistency it provides (Duffield, Roche, Diers, Tiedman & Lookinland, 2010). Models of total patient care also decrease costs (Tiedman & Lookinland, 2004). While models of patient allocation result in good patient outcomes, because RNs provide all the care for their patients, they

do not designate responsibility for the patients' entire inpatient stay (Wolf & Greenhouse, 2007).

Due to the shortage of nurses during the Second World War, nursing care shifted to the functional model. In the late 1940s, patient care was divided into tasks assigned to unregulated care providers and different categories of nurses depending on complexity of the task (Duffield et al., 2010). Functional (task-oriented, fragmented care) nursing is criticized because it does not recognize patients as individuals and devalues aspects of psychosocial care (Duffield et al., 2010). Functional nursing is also reliant on rules and policies instead of professional judgement (Wolf & Greenhouse, 2007). It focuses on physiologic need, fragments care and decreases accountability (Wolf & Greenhouse, 2007). Functional nursing could also put patients and staff at risk for infections due to the possibility of cross contamination when multiple providers perform task-oriented care for one patient (RNAO, 2003). This risk is augmented as nurses and unregulated providers on the team may have different levels of knowledge regarding the principles of infection control. Functional nursing makes it more difficult for nurses to establish a holistic understanding of the patient, because the big picture is lost when care becomes so fragmented. Indeed, functional nursing by design includes interruptions, or what Grinspun coined as "structural interruptions" that increase the risk for errors (Grinspun, 2010). Negative outcomes are associated with interruptions due to the fact that fragmented care requires constant consultation or assistance (Hall et al., 2010). When nurses are interrupted, they lose their concentration and delay care provision (Hall et al., 2010).

After the war, a team-based model of nursing emerged in the 1950s where RNs held leadership positions in nursing teams and provided direction to the rest of the providers (Tiedman and Lookinland, 2004). Team nursing emerged to mitigate the dissatisfaction with functional nursing. It involves assigning a team of nurses to care for a group of patients usually assigned by physical location in the unit (Duffield et al., 2010). This model mixes aspects of patient allocation and functional nursing. However, there are challenges with team nursing including: decreased continuity of care, unclear accountability and responsibility, and challenges with communication (Wells, Manuel & Cunning, 2011). Patients and their families do not have a primary contact and are left without knowing who their nurse is.

Models of team nursing introduce hierarchies within the nursing staff and requires expert RNs to be team leaders. Another concern is the negative outcomes associated with interruptions during practice with a high amount attributed to other nurses seeking consultation or assistance (Hall et al., 2010). Furthermore, care in team nursing is fragmented and costs increase as more time is spent co-ordinating, delegating and supervising (Wolf & Greenhouse, 2007). Costs also increase due to unmet patient

needs through negative adverse events such as: high readmission rates, nosocomial infection, poor monitoring and assessment of postsurgical patients, and untimely completion of nursing care (Needleman, 2008; Rogowski et al., 2013). Increased morbidity and mortality that are generated through team-based models of nursing care delivery run counter-intuitive to attempts to use team-based models to control costs.

Another team-based model is case management. In this model, patients are assigned to RN case managers responsible for co-ordinating care, including initial clinical assessments and developing and updating their care plans, with the direct care being provided by RPNs and unregulated care providers (Grinspun, 2010). Case management in the hospital sector was abandoned as it was fraught with fragmentation and resulted in unsafe and ineffective care and outcomes. Case management remained in use in home health care and primary care.

In the mid 1990s, Ontario adopted a case management approach in home health care through CCACs. These organizations would purchase services from existing home health-care providers based on cost (historically through managed competition) and quality of care (Baranek, Deber, & Williams, 2004). Contracts were allocated to the provider with the lowest bid and as a result, concerns were raised about quality of service delivery. The case manager role was introduced to determine which services patients were eligible for. However, a significant drawback of this approach was its focus on a "command and control" service brokerage, which significantly fragmented care (Baranek et al., 2004). Home health-care services were delivered by multiple organizations with no guarantee of continuity of care or caregiver. Compounding this issue, if organizations were unsuccessful in obtaining consecutive contracts, patient care would be completely transferred to competing organizations (Baranek et al., 2004). Although case managers were expected to co-ordinate care, given financial drivers and large caseloads, this function was not fully realized (Baranek et al., 2004). This model placed case managers in a position where they were accountable for financial expenditures, which created tension between providers competing for finite resources and moral distress when care was compromised to meet budgetary targets (Randall, 2007).

Evidence indicates that when implemented successfully, case management models have positive effects on patient outcomes. In primary care, they are associated with reduced re-hospitalizations, reduced total number of hospitalizations, and fewer bed days (Schraeder et al., 2008). These results are attributed to fuller assessments of the patient through collaboration between nurses and physicians, comprehensive care plans, patient education, and improved follow up (Schraeder et al., 2008). RN case managers contribute to the care of their patients by proactively identifying changes that could affect the patient's health status, spending the time to understand patients holistically beyond their illness, tailoring health education to meet the patients' needs, and following up with patients including reviewing test and lab results (Schraeder et al, 2008). With the support of an RN case manager, patients with Alzheimer's disease and related diseases are able to stay in their homes for longer while maintaining the well-being of their primary caregiver (Specht, Bossen, Hall, Zimmerman & Russell, 2009). RN case managers working with vulnerable or at-risk families develop advanced skills and competencies including: enhanced knowledge of child development, fine observation skills, anticipatory guidance, negotiation, modelling, holistic case management and an attitude of working "with" the patient (Kemp, Anderson, Travaglia & Harris, 2005). However, the success of case management models is influenced by continuity and the ability to provide comprehensive care co-ordination and navigation services over time. Responding to a single "case" (i.e. hip replacement) is episodic and may not be of benefit to those with more complex needs.

The most effective model of nursing care is primary nursing where one nurse takes responsibility for all of a patient's care needs on a continuous basis throughout the patient's stay.

Case management has increasingly become an outdated term and 'care co-ordination' has been adopted instead. The care co-ordinator role aims to embody a holistic and comprehensive approach. In this model, RNs situated in primary care provide care co-ordination for patients from "womb to tomb" (RNAO, 2012a, pg. 7). Care co-ordination is associated with improved patient satisfaction and quality of care, and quality of life in community settings (Boult et al., 2009). In Ontario, primary care is being seen as the best setting to co-ordinate care (Ontario Primary Care Council, 2015). The current policy appetite for health system transformation represents a prime opportunity for primary care RNs to assume the care co-ordination role and to transition current CCAC care co-ordinators into primary care. Doing so will increase the workforce capacity of primary care to offer comprehensive care co-ordination and health system navigation services.

The most effective model of nursing care is primary nursing where one nurse takes responsibility for all of a patient's care needs on a continuous basis throughout the patient's stay. This is similar to the total patient care model where one nurse provides total patient care, however, primary nursing strives for consistency throughout the patient's care process and not just on a shift-to-shift basis (Grinspun, 2010). In primary nursing, nurses provide direct care services for the patient as well as high-level care planning. Primary nursing developed in the late 1960s to increase continuity of patient care and make the nurse-patient-family relationship an overriding component of care (Duffield et al., 2010). When nurses practice in primary nursing models, they utilize more of their autonomy and clinical decision-making skills compared to when they work in team-based models of nursing care delivery, thus making it a strong model to use in all sectors (Mefford & Alligood, 2011; Needleman, Kurtzman & Kizer, 2007; Raternik, 2011; Thompson & Oliver, 2008). For example, primary nursing has proven to be invaluable in critical care settings where patients are highly complex and many times uncommunicative (Mefford & Alligood, 2011). Primary nursing enables nurses to understand patients' non verbal cues and intervene early when signs of disease progression appear (Mefford & Alligood, 2011). Furthermore, primary nursing facilitates PFCC as nurses focus on conserving the wholeness (or health) of the patient and their family (Mefford & Alligood, 2011). The value of primary nursing is evident when examining inpatient mental health where crisis stabilization is paramount and requires continuity of caregiver to establish a therapeutic relationship (Cleary, Walter & Hunt, 2005). In LTC, residents need 24/7 nursing care that balances restorative and palliative approaches (Thompson & Oliver, 2008). Similar to critical care settings, staffing patterns that improve continuity of care and caregiver enhance critical thinking in LTC through resident familiarity (Raternik, 2011). If a resident is approaching imminent death, they should be cared for by their primary nurse and the workload of that nurse should be adjusted to ensure the resident and their family are being cared for in a manner that

respects their wishes (Thompson & Oliver, 2008). Primary nursing care also increases positive outcomes to the work environment including increased collaboration between nurses working the same shifts and flattened hierarchies between nurses since patient care is equally shared (Raternik, 2011; Sjetne, Veenstra, Ellefsen & Stavem, 2009).

Although total patient care models and especially primary nursing are most effective in promoting PFCC, nursing care delivery models endured turbulent cycles, switching from primary care models to team-based models in the past few decades. Much of this has been influenced by a shift towards business goals in health care, such as balancing budgets and improving profits (Grinspun, 2010). Widespread adoption of primary nursing began in the 1970s due to dissatisfaction with the work environments and the dominance of the medical model associated with team nursing (Joinerm & Servellen, 1984; Manthey, 1980). During the 1980s, models of total patient care were promoted to achieve PFCC (Norrish & Rundall, 2001). During this time, licensed practical nurse and nursing aide positions were eliminated through attrition, and non-clinical roles were introduced to free RNs of clerical and administrative duties such as stocking supplies, housekeeping, and patient transport, and to maximize their time with patients (Cummings, 2006; Norrish & Rundall, 2001). Frontline nurses were engaged in decisions that affected nursing practice including use of resources, professional practice models and evaluating the quality of care (Cummings, 2006).

In the 1990s, the *Patient Focused* care movement strived to bring clinical supports in line with patient care areas and set another wave of restructuring in motion (Cummings, 2006). More services were offered at the patient bedside and care providers were cross-trained to deliver multiple services (lab work, EKGs, etc) resulting in the development of unregulated and multiskilled workers (e.g. technicians). However, these cross training programs increased costs (Norrish & Rundall, 2001). To combat the rising costs, team-based nursing was re-introduced in the 1990s. In the mid 1990s, the federal government cut six billion dollars of health-care funding over four years (Gordon, 2005). Concurrently with the federal government, the provincial government of Ontario also cut $1.3 billion from hospitals and decreased revenues from taxes (Gordon, 2005). This dramatically increased the financial pressure on the health system, and Ontario nurses grappled with the consequences.

These funding decisions meant that positions were cut beginning with management, professional development roles, research, supervision, support teams and culminated in the deletion of direct care RNs and/or their replacement with practical nurses and unregulated workers wherever possible in the unfounded belief that it would create operational efficiencies (Cummings, 2006; Norrish & Rundall, 2001). In addition, thousands of nurses were forced into part-time or casual employment as new full-time positions became non-existent. Again, this was motivated by the belief that a precarious workforce could be less expensive. The provincial government even supported the use of temporary nurses (Gordon, 2005). Unsurprisingly, the number of temporary nursing agencies grew during the 1990s. These developments caused many nurses to seek employment in the United States (Baumann, Blythe & Underwood., 2006; Zhao, Drew, & Murray, 2000). The emigration rate from Canada to the United States doubled in the mid-1990s compared to the 1980s (Zhao et al., 2000). According to a survey completed by RNAO in 2001, 62.7 per cent of RNs that left Ontario but maintained their registration with the CNO cited "downsizing, or lack of employment opportunities, or lack of full time employment" as reasons why they emigrated (RNAO, 2001, pg. 4). The nursing workforce became significantly de-stabilized. These developments had detrimental effects on patients. During the 1990s, emergency departments were overcrowded and "hallway nursing" where patient care was provided in temporary locations emerged

(Berry & Curry, 2012, pg.14). These consequences became commonplace, and in the 1990s hospitals also introduced institutional overcapacity protocols to manage them (Berry & Curry, 2012).

... models resembling functional nursing – now referred to as team-based nursing, collaborative practice, etc. – are once again emerging across the province as part of short-sighted efforts to control costs.

The changes also significantly reduced surge capacity and jeopardized the health of both patients and nurses during the 2003 severe acute respiratory syndrome (SARS) epidemic (Baumann, Blythe & Underwood, 2006).

NP positions have increased exponentially in Ontario and are now commonplace in organizational models of nursing care delivery. Sadly, their full potential has not been fully realized. In 2011, regulatory amendments made it possible for NPs to treat, transfer and discharge hospital inpatients. In 2012, NPs were authorized to admit hospital inpatients. In 2015, barriers impacting NPs' ability to refer patients directly to specialists were also lifted (RNAO, 2016a). Within the hospital environment, NPs are generally used in two ways: most responsible provider (MRP) and collaborative practice. As MRP, the NP has the primary responsibility and accountability for the care of the patient across the trajectory of hospital care (RNAO, 2016a). In a collaborative model, the NP is part of an existing care team as a collaborator, and there may be shared accountability (RNAO, 2016a). An RNAO-led survey of senior nurse leaders in Ontario's hospitals found that while 70 per cent of respondent organizations have NPs treating patients, only 41 per cent were discharging and four per cent admitting. The reasons cited as main barriers to the full utilization of NPs in hospitals include funding/budgets, physician concerns and regulatory barriers (e.g. authority to prescribe controlled substances). RNAO is also keenly aware that NPs in remote communities do not have admitting privileges at local hospitals, even though these privileges would facilitate access and care continuity. It is critical that these barriers be addressed by government and organizations to enable timely access, flow, quality and outcomes for Ontarians.

Currently, Ontario finds itself in a period of economic restraint, which is driving health system restructuring. This can be positioned as an opportunity to bring about much-needed transformation and improvements if done properly. However, models resembling functional nursing – now referred to as team-based nursing, collaborative practice, etc. – are once again emerging across the province as part of short-sighted efforts to control costs. Lessons from the past are not being considered. Moreover, it is imperative that a systems lens be used with organizations and health system planners to ensure they are in sync with both current and future needs.

How Organizational Models of Nursing Care Delivery Align with Government Priorities

The MOHLTC has proposed strategies to evolve Ontario's health system to become more patient and family-centred, more efficient, and more responsive to changing population health needs.

RNAO's *Person- and Family-Centred Care Guideline* identifies that: "It is important to acknowledge that person- and family-centred care focuses on the whole person as a unique individual and not just on their illness or disease. In viewing the individual through this lens, health-care providers come to know and understand the person's life story, experience of health, the role of family in the person's life, and the role they may play in supporting the person to achieve health" (RNAO, 2015, pg.8). And, while definitions of PFCC may vary, key characteristics include: establishing a therapeutic relationship; partnership between nurses, patients and their families; understanding the whole person (e.g. experiences, values, goals); providing individualized health services respectful of patient wishes; empowering patients in decision-making; forming supportive environments; effective communication, and timely access to care providers (Holmström & Röing, 2010; Mikkelsen & Frederiksen, 2011; Simm, Hastie & Weymouth, 2011).

The following is an analysis that compares provincial health policy priorities with models of nursing care delivery. This analysis is meant to illustrate the interdependent relationship between the system (macro), organizational (meso) and program (micro) level. Any change or action applied at one level will have consequences at the other levels.

1. Re-orient the System within Community-based Care

Re-orienting the system within community-based care demands a shift away from an illness-focused and task-based medical model to a health and wellness model that champions upstream approaches to prevent illnesses. This shift will be impossible if Ontarians do not experience continuity when they are in need of care. Making a truly patient and family-centred system starts at the patient-provider interaction. If organizational models of nursing care delivery prevent nurses from developing a holistic understanding of their patients at the local level, PFCC will not be achieved at the systems level. Primary nursing and primary care-based care co-ordination support a complete view of patients and respond to their evolving health needs. These models result in more satisfied patients, optimized health outcomes, and more cost-effective health systems.

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As previously identified, a shift of care to the community will position hospitals to care for persons with complex care needs. Hospitalizations will be shorter and thus demand consistency in care provider and a more efficient delivery of care. Within this context, continuity of caregiver benefits patients by minimizing fluctuations in care providers and striving to ensure there is a single point of contact responsible for planning and delivering care throughout their journey. This promotes a more co-ordinated experience, enables early intervention, and helps to foster a deeper understanding of patients' needs (Mefford & Alligood, 2011). Shorter length of stay leaves less time to develop a comprehensive care plan, and the fragmentation that comes from team and functional models will complicate this further. Fragmented care also exposes patients to a greater risk of contracting a hospital-acquired infection. Functional nursing puts patients and staff at risk for infections due to the possibility of cross contamination when multiple providers perform task-oriented care for a group of patients (RNAO, 2003). Compounding this risk, different health-care providers on the team have different levels of knowledge regarding the principles of infection control, further increasing the risk of contamination. Functional and team-based models also increase the liability risk of health professionals and organizations, as accountability is blurred.

An emphasis on early discharge will increase care needs in the community. Primary nursing fosters therapeutic relationships with patients and families in home health care and LTC. It will enable long-term monitoring, health promotion, and early intervention, which will benefit patients. A frequently-cited concern from Ontarians is fragmentation of their home health-care and support services (Donner, McReynolds, Smith, Fooks, Sinha & Thomson, 2015). Entering a person's home is a unique and highly personal experience. Ontarians

want and deserve to have the fewest number of providers entering their homes to deliver effective care.

2. Greater Public Transparency

To make the health system more accountable to the public, transparency needs to increase at all levels of the system. At the local level, patients have the right to know the model of care an organization has implemented, as well as the associated outcomes. The characteristics of the patient (including their level of illness/wellness), their family and the provider will impact how information is communicated. Organizational models of nursing care that promote the development of therapeutic relationships through continuity of caregiver must be used to ensure information is exchanged in a way that makes patients partners in their care (RNAO, 2015). Patients and families want to have consistent points of contact to ensure that they are receiving information about their health and care in a transparent way. It is challenging to be transparent with patients when there is a constant fluctuation in care providers, such as with team/functional models.

As patients transition between different health sectors, information should be exchanged in a manner that respects their privacy and legislation (i.e. the *Personal Health Information Protection Act* and the *Quality of Care Information Protection Act*) (RNAO, 2014b). As few providers as possible should be accessing sensitive personal health information. This emphasizes the need for an organizational model of primary nursing within institutions and care co-ordination in primary care where one nurse has a comprehensive understanding of a patient's holistic needs. The designated nurse can work with the patient and other providers to co-ordinate care, communicate information and ensure seamless transitions across sectors. Conversely, in team or functional models, nursing care becomes so fragmented, it is difficult for one nurse to maintain a holistic understanding of the patient. Psychosocial needs are also often overlooked given the focus is on providing medical services.

3. Providing Co-ordinated and Integrated Services that Match Population Health Needs

To provide health services that match population health needs, co-ordination needs to occur at the local level. The co-ordination of care is critical to advancing health system goals, such as supporting seamless transitions through the health system. Processes are needed to enable co-ordination. When working in interprofessional teams, it is important that a consistent nurse understands and advocates for patient needs when planning care. Models of primary nursing and primary care-based care co-ordination enable nurses to continuously collaborate with interprofessional team members on a plan of care. Facilitating continuity of caregiver for patients through these models of nursing also promotes collaboration and improved teamwork for nurses as they work with the same colleagues (Raternik, 2011). Team or functional nursing models result in inconsistent and fragmented care making it challenging for nurses to develop holistic plans of care for patients within the interprofessional team.

RN care co-ordinators in primary care are integral to increasing co-ordination and integration at the local level; however, this can only be done through a continuous and long-term relationship. There is opportunity for RNs to support the co-ordination of care for all Ontarians, particularly with vulnerable populations (i.e. people living with homelessness) (Wideman, 2011). These populations experience the greatest challenges accessing care and an RN is often their most frequent point of contact for care. This aligns with the MOHLTC's interest in tackling health disparities and improving health equity.

4. Monitor Health System Performance and Improve Accountability

Effective organizational models of nursing care delivery are key to ensuring optimal health system performance and accountability. Health organizations need to be accountable for the public resources they receive and this accountability is reflected in delivering the highest quality and safe service with the available resources. Total patient care, although preferable to team and functional models, is not as effective as primary nursing. Team and functional models of nursing care are not driving quality, nor safety and this creates significant performance and accountability concerns. Decision-makers must consider whether Ontarians are getting the most effective return on investments when considering the use of organizational models of nursing care delivery. Although team and functional models can bring short-term cost-effectiveness, they end up significantly increasing human and fiscal costs over time.

Strong nursing leadership is required at the local and systems levels to ensure high-quality nursing care is provided across sectors and settings. Ontario's nursing leadership capacity is significant. In hospitals, chief nurse executives (CNE) have the dual role of contributing to their hospital's strategic goals and providing clinical leadership in achieving high-quality patient care (Norrish & Rundall, 2001). Through RNAO's advocacy, the passage of the *Excellent Care for All Act*, 2010 requires hospital CNEs to be non-voting members of the hospital board and voting members of the quality committee (Government of Ontario, 2013a; RNAO, 2016a). This is a critical role for the profession and these leaders must rise to the challenge and ensure that organizational models of nursing care delivery are in the best interests of patients. To do so, RNAO will continue to support and enable nurse leaders through the Nurse Executive Governance and Leadership Program, which includes an advisory, knowledge exchange, toolkit and academy (RNAO, 2016a).

To monitor health system performance and accountability, local level data collection needs to be accurate. Nurses are required to deliver documentation that provides an accurate, clear and comprehensive account of their patients' needs with nursing interventions and outcomes in a timely and complete manner (CNO, 2008). With models of primary nursing and care co-ordination, one nurse is responsible for all of their patients' needs and the documentation of the care provided. In contrast, accountability for care is blurred in team or functional models of nursing because RNs oversee care for a group of patients but the direct care providers determine what to report and document. Documentation requirements also differ between regulated and unregulated providers and by setting. Furthermore, there are legal implications of third party documentation with team or functional models of nursing care (Wells, Manuel & Cunning, 2011).

Team and functional models will make it challenging to identify the impact that individual providers have on improving these indicators. If the documentation at the local level is flawed, an imprecise reflection of nursing care arises at the organization level because there will be inaccurate tracking of nursing sensitive indicators. Aggregating inaccurate local level data to determine health system performance will actually be detrimental to the province. Conclusions developed by analyzing this data would place focus and priority on mistaken areas of the health system.

Recommendations

1. The MOHLTC develop a provincial evidence-based interprofessional HHR plan to align population health needs and the full scope of practice of all regulated health professions with system priorities

The MOHLTC has proposed a plan that will significantly evolve Ontario's health system. Perhaps the greatest success factor will be a corresponding comprehensive and interprofessional HHR plan because health professionals are the fuel to implement change. The absence of such a plan to this point is stunning and marks a huge void in the overall vision of system transformation. In the meantime, health organizations are making changes to nursing skill-mix and organizational models of nursing care delivery that are completely counter to broader system advancement.

Analysis needs to occur at the provincial and LHIN levels to determine the demand, supply, distribution and utilization of HHR in Ontario. HHR planning must occur within broader health service planning, not separate from it (Birch et al., 2009). A plan must be developed that makes connections between government health policy priorities, population health needs and interprofessional teams practising to their full and expanded scopes of practice. This analysis will help to identify where the gaps exist and propose a plan to move forward with the ultimate goal of providing timely, equitable, safe and quality care for all Ontarians.

2. The MOHLTC and LHINs issue a moratorium on nursing skill mix changes until a comprehensive interprofessional HHR plan is completed

Until such a comprehensive HHR plan is developed, it is short-sighted to proceed with any nursing skill mix changes. The MOHLTC, in partnership with LHINs, should issue a moratorium to health organizations that will prohibit any changes to nursing skill mix until there is a comprehensive understanding of Ontario's health human resource demand and capacity. Strong political and bureaucratic leadership have historically produced results that have helped to stabilize the nursing workforce. A prime example of this leadership is the province's recognition, direction and plan to have 70 per cent of nurses working full-time – resulting in an almost 30 per cent increase in full-time employment for RNs between 1999 and 2012 (RNAO, 2016b).

3. LHINs mandate the use of organizational models of nursing care delivery that advance care continuity and avoid fragmented care

Functional and team-based organizational models of nursing care delivery essentially fragment or "chop" nursing care into a series of tasks delegated to the least costly care provider. These models emerged in the late 1940s to respond to care needs during the Second World War where assembly-line care was necessitated. However, this is not the case today. Decades of evidence and experience have demonstrated that these models decrease patient/family/staff satisfaction, put patients at risk and increase costs. Alarmingly, during times of financial constraint, some organizations continually revert to these models for short-term financial savings. This

cycle must end. Given their regional planning and accountability functions, RNAO is calling on LHINs to put a permanent end to functional and team-based organizational models of nursing care delivery. RNAO also insists that LHINs must regularly monitor which models of nursing care delivery are being implemented within their funded health organizations and intervene when safety and quality are at risk. All efforts should be made to prioritize the use of primary nursing models of care delivery which secure continuity of care and continuity of care giver.

4. The MOHLTC legislate an all-RN nursing workforce in acute care effective within two years for tertiary, quaternary and cancer centres (Group A and D) and within five years for large community hospitals (Group B)

Acute care hospitals are being positioned to provide short-term care for the most complex and unstable patients in response to injuries, critical health issues, and surgical procedures (Health Quality Ontario, 2015). If a patient is stable and/or has predictable outcomes, they should not be cared for in an acute care hospital, and arguably not in any hospital environment. Not only will the complexity of patients increase, the complexity of the work environment will continue to increase with the use of sophisticated technology and complex information management systems (Institute of Medicine [IOM], 2011). These changes require a highly educated nursing workforce with the necessary expertise and skills to analyze and synthesize a variety of information to provide care for patients. Comparable population health needs are occurring in the United States where the Institute of Medicine is recommending the entry to practice education requirement for RNs be raised to a Bachelor of Science in Nursing (BSN) to ensure nurses have competencies that include evidence-based practice, leadership, systems thinking, and research (IOM, 2011). Hospitals accepted into the Magnet Recognition Program favour BSN-prepared nurses, teaching hospitals strive for 90 per cent BSN employment, and community hospitals aim for at least 50 per cent BSN employment, all of which further reflect the value of baccalaureate-prepared RNs (IOM, 2011). Furthermore, cost differences associated with compensation can be offset by avoiding adverse patient events (Aiken et al., 2011).

In Ontario, complexity of care is increasing and lengths of stays are decreasing. To ensure patient needs are safely met today and in the future, RNAO calls for the province to take a strong leadership role by amending the *Public Hospitals Act* and associated regulations to mandate an all-RN nursing workforce in tertiary, quaternary and large community hospitals. This would include Group A, Group B and Group D hospitals as categorized in Regulation 964 (Appendix B). These hospitals are often referral centres, provide complex or specialized care and have relationships with academic institutions. This requires the skills and expertise of RNs working together with an increased number of NPs and clinical nurse specialists practising to their full scope. The proposed timeframes specified align with the implementation of transformation efforts underway. These changes can be achieved by immediately mandating a stop to RN replacement and ensuring that any new hires are RNs.

5. LHINs require that all first home health-care visits be completed by an RN

The complexity and prevalence of care in the home has increased and will continue to do so with current proposals to restructure the health system. The pressure on the home health-care sector has intensified as patients require more services for longer periods of time and more patients are being supported in their home (Donner et al., 2015). In the last five years alone, the number of patients with high needs has gone up by 83 per cent (Ontario Association of Community Care Access Centre, 2014a). With the rise in complexity, the number of unplanned readmissions to hospitals within 30 days of discharge and falls has risen as well (Ontario Association of Community Care Access Centre, 2014b). It is critical that all first home health-care visits be provided by an RN to perform a holistic assessment and develop a comprehensive plan of care to ensure patients' needs are safely met in their homes. During this initial visit, the complexity and stability of the patient is unknown and the RN will fully assess the care complexity and needs, develop a plan, and determine the most appropriate caregiver (i.e. RN, RPN or UCP).

6. The MOHLTC, LHINs and employers eliminate all barriers, and enable NPs to practise to full scope, including: prescribing controlled substances; acting as most responsible provider (MRP) in all sectors; implementing their legislated authority to admit, treat, transfer and discharge hospital in-patients; and utilizing fully the NP-anaesthesia role inclusive of intra-operative care

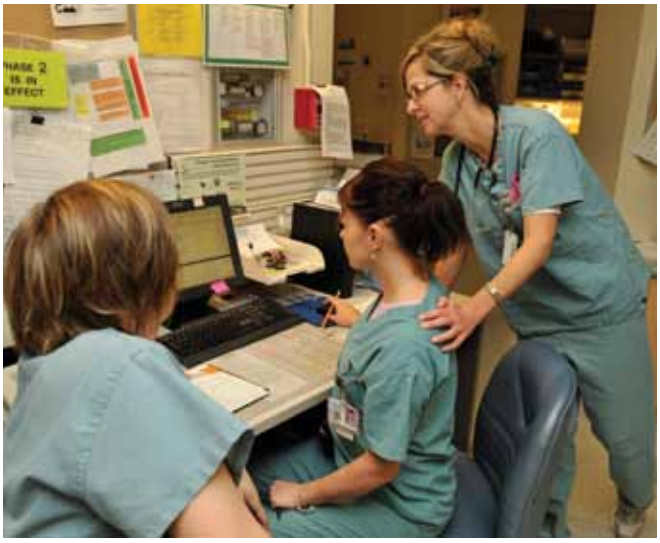
In 2012, federal regulations were amended to permit NPs to prescribe controlled substances (Government of Canada, 2012). RNAO influenced these national changes and has been advocating for complementary amendments to provincial regulations for three years (RNAO, 2012d; RNAO, 2014c). In 2013, the Premier said she was aware of this issue at RNAO's Annual General Meeting and promised action (Government of Ontario, 2013b). However, three years have passed and we have seen no movement. This lack of progress is alarming and impacts Ontarians' access to care, especially: people at the end of life, those struggling with addictions and transgendered persons. Moreover, the lack of action is incompatible with the advancement

of the NP role within Ontario's health system, which includes attending NPs in LTC, MRP in hospitals and lead providers in primary care. Other outstanding regulatory barriers must be lifted to enable NPs to practise to their full competencies, knowledge and skills, including: ordering all diagnostic tests including CT scans and MRIs and initiating an application for psychiatric assessment (RNAO, 2016a).

In 2011/12, regulatory amendments authorized NPs to admit, treat, transfer, and discharge hospital in-patients. However, uptake of the expanded role has been limited by organizational and system barriers pertaining to funding, physician concerns and regulatory limitations. NP funding in hospitals is derived from operating budgets and necessitates an appropriate funding model for the benefit of Ontarians. Senior leadership and system planners should envision the NP role from a person and not provider-centric lens to promote an enabling culture and integration within the interprofessional team. This can also happen by amending the Public Hospitals Act to transform Medical Advisory Committees to Interprofessional Advisory Committees (RNAO, 2009b).

7. The MOHLTC legislate minimum staffing standards in LTC homes: one attending NP per 120 residents, 20 per cent RNs, 25 per cent RPNs and 55 per cent personal support workers

While the government's series of policy papers attempts to build a stronger health system, LTC is largely missing from these documents despite having an important role to play. This creates a significant planning gap. RNAO believes that LTC home placement should only occur when it is absolutely necessary, and ideally only when the patient and his or her family makes that choice. A person's move to a nursing home should be seamlessly co-ordinated with other health sectors (i.e. primary care). Today, despite the best efforts of care providers, the needs of many LTC residents remain underserviced. This is the result of a myriad of factors and, most notably, limited access to nurses. To ensure evidence-based minimum standards of care are established within each home, RNAO continues to call on the province to require and enforce staffing standards that include a minimum of one NP per LTC home, with no less than one NP per 120 residents, and a workforce that consists of at least 20 per cent RNs, 25 per cent RPNs and no more than 55 per cent personal support workers, subject to increases due to greater acuity and complexity (RNAO, 2012b).



8. LHINs locate the 3,500 CCAC care co-ordinators within primary care to provide health system care co-ordination and navigation, which are core functions of interprofessional primary care

As this report has identified, care co-ordination is critical to achieving a high-performing primary care foundation (Bodenheimer, Ghorob, Willard-Grace, & Grumbach, 2014). RNs are ideally suited to co-ordinate care through their broad system knowledge, expert clinical background, awareness of the determinants of health and excellent critical thinking skills (RNAO, 2012a; RNAO, 2012c; RNAO, 2014a).

There are over 4,500 RNs currently working in primary care (CNO, 2016b). In addition to these, RNAO proposes transitioning the approximately 3,500 care co-ordinators currently employed within CCACs into interprofessional primary care models with their salary and benefits intact (RNAO, 2012c; RNAO, 2014a). These RNs will deliver expert care co-ordination and health system navigation that will make a measurable difference in the health status of Ontarians, while improving health system efficiencies through prompt treatment, seamless transitions and less duplication (e.g. ordering duplicate tests).

Conclusion

Ontario is set to embark on a transformative journey to improve timely and co-ordinated access to safe, high-quality health services. Four key themes have been identified by RNAO within the government's plan to advance PFCC: re-orienting the system within community-based care; greater public transparency; providing co-ordinated and integrated services that match population health needs; and monitoring health system performance and improving accountability. An effective utilization of all health professionals, and in particular the nursing workforce, is key to success in these endeavours. Two specific elements of nursing health human resources to advance safe and quality PFCC are tackled in this report: effective nursing skill mix distributions, and organizational models of nursing care delivery.

Ensuring that the right care is delivered to Ontarians by the right nurse, through appropriate nurse assignments, and enabling nurses to practise within organizational models of nursing care delivery that emphasize continuity of care and caregiver, are both paramount to securing safe and quality care and optimizing health outcomes.

The future of our health system is exciting. To realize its potential, decision-making must be aligned with a long-term vision for a patient and family-centred and population health-driven health system. To fuel the desired change, a comprehensive, evidence-based interprofessional health human resource plan is desperately needed. In the meantime, we provide an in-depth analysis of the nursing workforce, a set of concrete evidence-based recommendations and an urgent call for the health minister and government agencies to use their power to stop short-sighted temptations to rely on flawed nursing skill mix and organizational models of nursing care delivery. These are detrimental to Ontarians, to nurses, and to the future of health and health care in Ontario.

The time has come to truly put patients first.

Appendix A:

To determine government priority themes, the three reports released in 2015 by the MOHLTC were individually analyzed. Excerpts from each report were reviewed and categorized into sub-themes and grouped into a major theme.

LEGEND:
Experts and sub-themes from each report are identified by the following colours.

Patients First:
Ontario's Action Plan for Health Care

Patients First:
A Roadmap to Strengthen Home and Community Care

Patients First:
A Proposal to Strengthen Patient-Centred Health Care in Ontario

GOVERNMENT PRIORITIES

Major Theme	Sub-theme	Excerpt from Report
Re-orient the system within community-based care	Funding for construction projects in LTC	Increased construction funding subsidy to redevelop 30,000 older LTC homes.
	Integration of interprofessional services	We're calling on providers at the front lines of our system to help us improve the patient experience, and to continue being responsive to the needs of patients.
	Increased funding for home and community care	Extend our commitment to increase funding for home and community care by five per cent each year, investing an additional $750 million across the province over the next three years.
	Bundled care approach	Government is moving forward with a bundled care approach, in which a group of providers will be given a single payment to cover all the care needs of an individual patient.
	Self directed care options	Self directed care option where patients and their caregivers are given funds to hire their own provider or purchase services from a provider of their choice.
	Interprofessional care teams	Further examine challenges affecting recruitment and retention, including how PSWs can become more involved in teams of health-care professionals to better care for patients.

Major Theme	Sub-theme	Excerpt from Report
	Central body (LHIN) to allocate funding regionally	LHINs to allocate funding to public health units.
	Gaps in care	We propose to truly integrate the health-care system so that it provides the care patients need no matter where they live. Our proposal is focused on population health and integration at the local level. It would improve access to primary care, standardize and strengthen home and community care, and strengthen population and public health.
Greater public transparency	Patient ombudsman	Appoint a patient ombudsman to resolve complaints at hospitals, LTCs, and CCACs.
	Engage community	Community engagement initiatives through LHINs.
	Levels of Care Framework	Self directed care option where patients and their caregivers are given funds to hire their own provider or purchase services from a provider of their choice.
	Wide consultations	Consult broadly with patients, their advocates and caregivers, and with our partners in the home and community care sector including providers, agencies and sector leaders to develop a statement of our shared values to guide our transformation of home and community care.
	Public reports	Prepare public reports about the patient experience with different health services and other reported outcomes to help drive improvements.
	Partner with local leaders	LHINs, in partnership with local clinical leaders, would take responsibility for primary care planning and performance management.
	Health inequities	Where the system's and public health's interests overlap, public health would benefit from more in-depth knowledge of the population's health status available through LHINs as well as the LHINs' ability to distribute health resources to address health inequities.
	Addressing the needs of specific populations	Some Ontarians – particularly Indigenous peoples, Franco-Ontarians, members of cultural groups (especially newcomers), and people with mental health and addiction challenges – are not always well-served by the health-care system.

Major Theme	Sub-theme	Excerpt from Report
Providing co-ordinated and integrated services that match population health needs	Changing funding models to improve care co-ordination	Changing funding models to improve care co-ordination (seamless transitions) because by covering all the steps in the patient's journey (for example, from surgery to home health care), we can make the patient's experience more seamless.
	Primary care organized around the needs of the population	Together with our partners, we will bring forward a plan to ensure our primary care providers are organized around the needs of our population, such as those in northern, rural and fast-growing communities, focusing on greater accountability and access for these individuals and families.
	Provide better services for underserved populations	Improve quality of primary health care to reflect population needs, needs of underserviced populations, mental health care.
	Interprofessional care	Integrating physiotherapists and other types of health-care providers into the family health practice, to provide more comprehensive care to seniors and those with complex needs.
	Higher use of health links	Improve transitions in care by co-ordinated patient care through Health Links.
	Interprofessional collaboration	To help achieve more seamless care, our government is moving forward with a bundled care approach, in which a group of providers will be given a single payment to cover all the care needs of an individual patient.
	Clear oversight	Support greater patient choice for palliative and end-of-life care. We will expand access and equity in our system, establish clear oversight and accountability, and introduce new supports for caregivers.

Major Theme	Sub-theme	Excerpt from Report
	Interprofessional practice	Improving access to inter-professional teams for those who need it most, facilitating care plans and supporting an integrated, co-ordinated patient-centred experience.
	Care co-ordinators deployed into community settings	Home health-care co-ordinators would be focused on LHIN sub-regions, and may be deployed into community settings (such as family health teams, community health centres or hospitals).
	Develop formal partnerships to share knowledge and capacity	Where the system's and public health's interests overlap, public health would benefit from more in-depth knowledge of the population's health status available through LHINs as well as the LHINs' ability to distribute health resources to address health inequities. LHINs would also benefit from greater access to public health expertise when planning health services.
	Integrate services	Integrate and improve primary care, home and community care, acute care, mental health and addiction services and public health across the entire health-care system.
	LHIN sub regions	Such LHIN sub-regions would be the focus for strengthening, co-ordinating and integrating primary health care, as well as more fully integrating primary care with home and community care, and ultimately fulfilling the clinical co-ordination responsibilities currently provided by the CCACs.
		Each LHIN sub-region would have a process to match unattached patients to primary care providers.
	LHIN	LHINs would be responsible for the LTC placement process currently administered by CCACs.
		The ministry's ten-point plan for improving home and community care would continue under LHIN leadership.

Major Theme	Sub-theme	Excerpt from Report
Monitor health system performance and improve accountability	Share results with Ontarians to identify opportunities for improvement	Ontarians also want our health-care system to be transparent and accountable, and they want to know that it will deliver results for patients now and in the future. Giving Ontarians more information about how health care works and opportunities to provide their perspectives on their care will help identify how the system can work better.
	Develop capacity plans	We will develop a capacity plan that includes targets for local communities as well as standards for access to home and community care and for the quality of patient experience across the province.
	LHIN	Making the LHIN and LHIN sub-regions the focal points for primary care planning and performance measurement would be a crucial step towards achieving these goals.
	Develop patient outcome measures	To help drive continuous quality improvement in primary care, the ministry would more methodically measure patient outcomes in primary care to help understand the patient experience accessing primary care, including same-day and after-hours care, and satisfaction with service.
	Develop performance indicators	LHINs would collect, assess and publish performance indicators at a sub-region level and share that information with health care providers and managers to support performance improvement, as well as to help inform the organization of primary care in each LHIN sub-region.
	Outcome-based targets	While care planning and delivery would be done at the local level, the function of establishing clinical standards and outcomes-based performance targets for home and community care would be centralized. Having common standards and targets for the whole province will ensure more consistent and higher-quality care.

Appendix B:

Classification of Hospitals

Public Hospitals Act, R.S.O. 1990, c. P. 40, section 32.1 Classification of Hospitals, Regulation 964, R.R.O. 1990, made under the *Public Hospitals Act*

Accessed from: http://www.health.gov.on.ca/en/common/system/services/hosp/group_d.aspx

Group A Hospitals - General / Teaching	
HAMILTON	**Hamilton Health Sciences Corporation** - Chedoke Hospital Site - Hamilton Hospital Site - Juravinski Hospital and Cancer Centre Site - McMaster University Medical Centre Site - St. Peter's Hospital Site - West Lincoln Memorial Hospital Site
	St. Joseph's Health Care System-Hamilton - St. Joseph's Hospital Site - Centre for Mountain Health Services
KINGSTON	**Kingston General Hospital**
	Hotel Dieu Hospital
LONDON	**London Health Sciences Centre** - University Site - Victoria Site
	St. Joseph's Health Care, London - Parkwood Site - St. Joseph's Health Care Centre Site - St Joseph's Health Care,London - London MH Site - St Joseph's Health Care, London - St Thomas MH Site
OTTAWA	**Children's Hospital of Eastern Ontario**
	Hôpital Montfort
	The Ottawa Hospital / L'Hôpital D'Ottawa - Civic Site - General Site - Riverside Site (converted to urgent care clinic) - The Rehabilitation Centre Site

Group A Hospitals - General / Teaching	
SUDBURY	**Health Sciences North** - General Site (St. Joseph's Health Centre) - Laurentian Site
THUNDER BAY	**Thunder Bay Regional Health Sciences Centre**
TORONTO	**Sinai Health System** - Mount Sinai Hospital Site
	University Health Network - Toronto General Hospital Site - Toronto Western Hospital Site - Princess Margaret Hospital / The OntCancer Institute Site
	Sunnybrook Health Sciences Centre - Sunnybrook Health Sciences Site - Orthopaedic and Arthritic Site
	Hospital for Sick Children (The)
	Women's College Hospital
	St Michael's Hospital

Group B Hospitals - General > 100 Beds	
BARRIE	**Royal Victoria Regional Health Centre**
BELLEVILLE	**Quinte Healthcare Corporation** - Belleville General Hospital Site - Bancroft North Hastings Site - Picton Prince Edward County Site - Trenton Memorial Hospital Site
BRAMPTON	**William Osler Health System** - Etobicoke General Site - Brampton Civic Hospital Site
BRANTFORD	**Brant Community Healthcare** - The Brantford General Hospital - The Willet Hospital
BROCKVILLE	**Brockville General Hospital** - Brockville General Hospital-St Vincent de Paul Hospital Site
BURLINGTON	**Joseph Brant Hospital**
CAMBRIDGE	**Cambridge Memorial Hospital**
CHATHAM	**Public General Hospital Society of Chatham (The)**
	St Joseph's Health Sciences Association of Chatham, Incorporated
COBOURG	**Northumberland Hills Hospital** - Cobourg District General Site
CORNWALL	**Cornwall Community Hospital/Hopital communautaire de Cornwall** - Cornwall Community Hospital - Cornwall General Site
GUELPH	**Guelph General Hospital**

Group B Hospitals - General > 100 Beds	
KITCHENER	**St. Mary's General Hospital**
	Grand River Hospital Corporation - Kitchener Freeport Hosp Site
LINDSAY	**Ross Memorial Hospital**
MARKHAM	**Markham-Stouffville Hospital** - Uxbridge The Cottage Hospital Site
MISSISSAUGA	**Trillium Health Partners** - Credit Valley Hospital Site - Mississauga Hospital Site
NEWMARKET	**Southlake Regional Health Centre**
NORTH BAY	**North Bay Regional Health Centre**
OAKVILLE	**Halton Healthcare Services Corporation** - Oakville Trafalgar Memorial Hospital Site
ORANGEVILLE	**Headwaters Health Care Centre** - Orangeville Dufferin Area Hospital Site - Shelburne District Hospital Site
ORILLIA	**Orillia Soldiers' Memorial Hospital**
OSHAWA	**Lakeridge Health** - Oshawa General Hosp. Site - Whitby Site - Port Perry Site
OTTAWA	**Queensway-Carleton Hospital**

Group B Hospitals - General > 100 Beds	
OWEN SOUND	**Grey Bruce Health Services** - Markdale Site - Meaford Site - Southampton Site - Warton Site - Owen Sound Site - Lion's Head Site
PEMBROKE	**Pembroke Regional Hospital Inc.**
PETERBOROUGH	**Peterborough Regional Health Centre**
RICHMOND HILL	**MacKenzie Health**
SARNIA	**Bluewater Health** - Sarnia General Hospital - Petrolia Charlotte Eleanor Englehart Hospital
SAULT STE MARIE	**Sault Area Hospital** - Sault Area Hospital - General Site - Richards Landing Site - Thessalon Site
SIMCOE	**Norfolk General Hospital**
ST CATHARINES	**Niagara Health System** - Fort Erie Douglas Memorial Site - Fort Erie Douglas Memorial Site - Niagara Falls Greater Niagara Site - Niagara-On-The-Lake Site - Port Colborne General Site - St. Catharines Site - Welland County Gen Site
ST THOMAS	**St Thomas-Elgin General Hospital**

Group B Hospitals - General > 100 Beds

STRATFORD	**Stratford General Hospital**
TIMMINS	**Timmins and District General Hospital**
TORONTO	**Scarborough Hospital (The)** - Scarborough General Site - Birchmount Campus
	St. Joseph's Health Centre
	Toronto East General Hospital (The)
	Humber River Hospital - Wilson Site
	Rouge Valley Health System - Ajax and Pickering Health Centre Site - Centenary Health Centre Site
	North York General Hospital - Branson Hospital Site - General Site
WINDSOR	**Windsor Regional Hospital** - Windsor Metropolitan General Site - Regional Children Centre - Ouellete Campus Site
	Hotel Dieu Grace Healthcare - Tayfour Campus Site
WOODSTOCK	**Woodstock General Hospital**

Group D Hospitals (Cancer Care)	
KINGSTON	**Kingston General Hospital**
LONDON	**London Health Sciences Centre** - Victoria Hospital site
OTTAWA	**The Ottawa Hospital / L'Hopital D'Ottawa** - Civic Site - General Site - Riverside Site (converted to urgent care clinic) - The Rehabilitation Centre Site
SUDBURY	**Health Sciences North** - General Site (St. Joseph's Health Centre) - Laurentian Site
THUNDER BAY	**Thunder Bay Regional Health Sciences Centre**
TORONTO	**University Health Network** - Toronto General Hospital Site - Toronto Western Hospital Site - Princess Margaret Hospital /The OntCancer Institute Site
	Sunnybrook Health Sciences Centre - Sunnybrook Health Sciences Site - Orthopaedic and Arthritic Site

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Registered Nurses' Association of Ontario
158 Pearl Street, Toronto, Ontario M5H 1L3
Tel: (416) 599-1925 / 1-800-268-7199
Fax: (416) 599-1926 Email: info@RNAO.ca

RNAO.ca